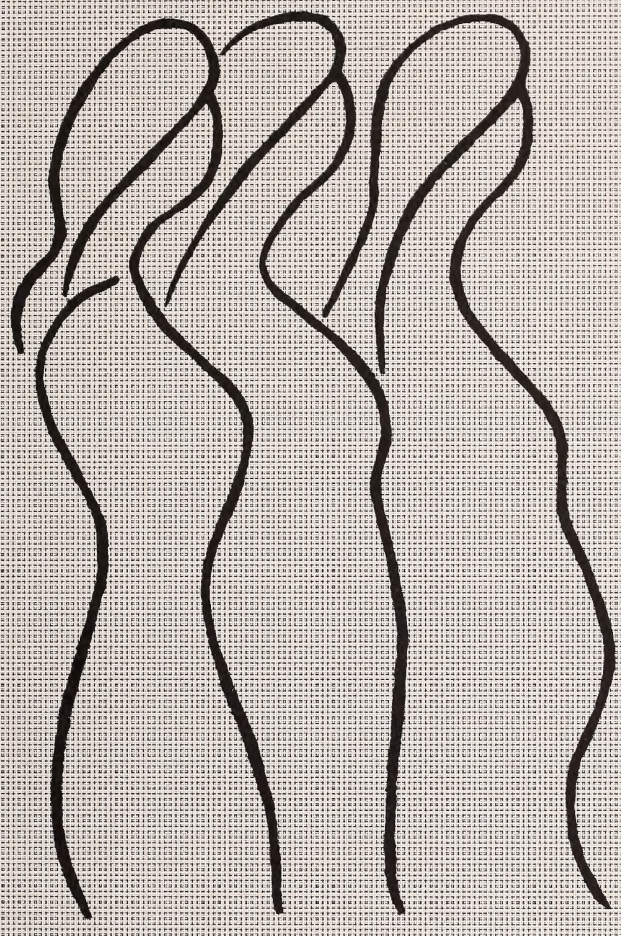

Alberta Reproductive Health: Pregnancy Outcomes

REPORT

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HEALTH AND WELLNESS

ALBERTA MEDICAL ASSOCIATION

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Acknowledgement:

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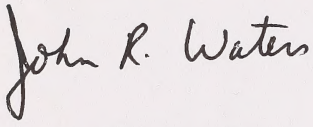
Joint Message

Reproductive Health is an important component of the health of women and children. The information compiled in this report - fertility rates, abortion rates and perinatal mortality - provides the foundation for strategic planning, policy formation and program development in the area of reproductive health. Information on perinatal care and obstetric services helps to identify strengths and weaknesses in service delivery and enables quality improvement.

This report is a consolidation of information on reproductive health in Alberta. It combines the *Reproductive Health: Pregnancy Outcomes Report*, previously produced by Alberta Health, with the *Alberta Perinatal and Neonatal Statistics and Maternal Mortality Report* produced by the Alberta Medical Association.

Sharing information in a joint report such as this creates efficiency and a natural partnership opportunity and it will contribute to the improvement of the health of women and children in Alberta. The efforts of those involved in the provision of data, compilation, review and publication of this document are greatly appreciated.



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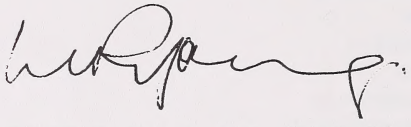

Dr. W. R. Young, M.D., F.R.C.S(C)., F.A.C.O.G.
Chair, Committee on Reproductive Care
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Executive Summary

The information in this report is collected from various data sources including Vital Statistics, Alberta Health administrative databases, Statistics Canada publications and the hospital statistics reported to the AMA Committee on Reproductive Care. This report provides comprehensive information on live births, stillbirths, spontaneous abortions, induced abortions, procedures related to delivery, perinatal mortality, infant mortality and maternal mortality. Wherever possible and appropriate, information for health regions, age groups, time trends and risk factors is provided.

Demographic Trend:

- The declining trend in general fertility rate (GFR, number of live births per 1,000 women aged 15-49) continued in 1996/97. Over the 12 year time period examined, the GFR has declined by 23%, from 63.9 in 1985/86 to 49.3 in 1996/97.

- The estimated pregnancy rate (live births, stillbirths, spontaneous abortions and induced abortions) rate has decreased steadily in the past 12 years. It was 80.4 per 1,000 women of child bearing age (15-49) in 1985/86 and 68.6 per 1,000 in 1996/97. There was a total of 51,758 pregnancies estimated for the year of 1996/97.

- The average maternal age at live birth has increased by 1.5 years in the past 12 years and it was 28 in 1996/97. The average age of women who had an induced abortion is about two to three years younger than that of women who had a live birth.

Prenatal Care

- Mothers attending prenatal classes are less likely to have a low birth weight baby. Older mothers are more likely to attend these classes than younger mothers.

- Over 77% of pregnant women in Alberta had six or more prenatal physician visits. Women who had four or fewer visits are more likely to have a low birth weight baby.

Abortions

- Approximately nine per cent of the estimated pregnancies ended with spontaneous abortions. The spontaneous abortion rate remained stable over time at about 5.5 per 1,000 women aged 15-49. Both younger and older women are at higher risk of having spontaneous abortions.

- Induced abortions have increased over the 12-year time period examined, from 6,356 in 1985/86 to 9,613 in 1996/97. The induced abortion rate was 12.7 per 1,000 women aged 15-49 in 1996/97, compared to 9.4 in 1985/86. Induced abortions performed in hospitals decreased while the procedures done in abortion clinics increased in 1996/97.

Deliveries

- The provincial induction rate has increased from 13.3% in 1985/86 to 21.7% in 1996/97. Over the past 12 years, the caesarean section rate showed a slight but statistically significant trend of decline and stood at 16.3% in 1996/97. During the same time period, the use of forceps has decreased (from 14% to 6.5%) while the use of vacuum extraction showed an increase (from 0.4% to 10%); the episiotomy rate has decreased (from 43% to 13%) whereas the laceration rate has increased (from 24% to 51%).

- The number of planned, out-of-hospital births (home births) varied over time and showed an increase for the last three years. In 1996/97, 50% of hospital deliveries were attended by obstetrician/gynecologists, while 49% were attended by family physicians.

Birth Outcomes

- Over the past 12 years, the number of live births has consistently decreased. In 1996/97, there were 37,209 live births, a 14% decrease from 1985/86. Stillbirths varied over time, ranging from 230 to 315. Both younger and older mothers are at higher risk of having stillbirth.

- Increasing trends for both low birth weight rates and pre-term birth rates are evident. In 1996/97, the provincial low birth weight rate was 6.2%, compared to 5.4% in 1985/86. The Calgary health region has a higher low birth weight rate than the provincial average for 1995-1997 combined. Maternal age, smoking and prenatal physician visits are connected to low birth weight births.

- There is an increasing trend toward multiple birth. In 1996/97, the provincial multiple birth rate was 2.5%. In 1996, 48% of multiple pregnancies were delivered in level III hospitals and 46% in level II hospitals.

Perinatal and Infant Mortality

- The provincial perinatal mortality rate has shown a declining trend. In 1996, the perinatal mortality rate was 9.8 per 1,000 total births. There is also a decreasing trend in neonatal mortality over time. While the late-neonatal mortality rate remained fairly constant, the reduction in early-neonatal mortality was evident. The provincial neonatal mortality rate was 4.2 per 1,000 live births for 1996. Post-neonatal mortality also showed a significant decline and the rate for 1996 was 2.1 per 1,000 live births.

- The infant mortality rate has shown a significant decline from a rate of 8.9 per 1,000 live births in 1986 to a rate of 6.2 in 1996. The 1995-1997 combined data showed that the Calgary health region had a lower infant mortality rate than the provincial average, whereas the rate for the Crossroad health regions was higher than the average.

Maternal Mortality

- In 1996, there were six reported maternal deaths, among which two were directly related to pregnancy.

Morbidity Reports

- Morbidity data on the frequency and severity of chronic lung disease in pre-term infants suggests that although survival rates for very low birth weight babies has improved, the frequency of chronic lung disease and broncopulmonary dyplasia has not changed significantly.

- Morbidity data from neonatal follow-up on outcome of babies with birth weight less than 1,250 grams in northern and central Alberta showed an increase in the proportion of survivors with disabilities, as well as an increase in absolute numbers of disabled children. The in-hospital mortality for these babies in the mid-1970s was about 60%; presently it is about 25%.

For further information on any aspect of the report, please contact the Health Surveillance Branch, of Alberta Health and the Alberta Medical Association Committee on Reproductive Care.

Introduction

This report is a consolidation of information on reproductive health in Alberta. It combines two reports that were previously published independently: *Reproductive Health: Pregnancy Outcomes*, a report prepared by Alberta Health and *Alberta Perinatal and Neonatal Statistics and Maternal Mortality*, a report produced by the Alberta Medical Association. The integration of the two reports avoids duplication and broadens the scope of the report.

This report presents Alberta data on select pregnancy outcomes including:

- live births and stillbirths
- low birth weight and pre-term births
- spontaneous and induced abortions
- multiple pregnancies and multiple births
- operative deliveries and induction of labour
- perinatal, neonatal and infant mortality
- maternal mortality
- factors associated with mortality

Trend data are provided across different maternal age groups and health regions from 1985/86 to 1996/97 (or 1986 to 1996 in cases where calendar years were used). National comparisons are presented where information was available. Regional data are provided mostly by residence and sometimes by facility of birth.

Data Sources

Vital Statistics Birth Registration Files, Alberta Municipal Affairs
Vital Statistics Death Registration Files, Alberta Municipal Affairs
Clinic Files, Alberta Health
Hospital Morbidity Files, Alberta Health
Physician Claims Files, Alberta Health
Alberta Health Care Insurance Plan Registration File, Alberta Health
Data from medical record departments from hospitals in Alberta
Perinatal, neonatal and maternal death cases from hospitals in Alberta
Reports from the Medical Examiner's Office
Reports from the follow up clinics for neonates and infants.
Statistics Canada Publications

Methodology and Limitations

Statistical analyses are primarily descriptive, using frequencies, rates, percentages, means and medians where applicable. Statistical significance tests are performed where indicated. Regional differences are interpreted in the context of standard errors and confidence intervals.

Birth statistics are derived from the Vital Statistics Birth Registration Files. Registration of births in Alberta is a legal requirement and believed to be virtually complete. Births to non-Alberta residents occurring in Alberta have been excluded from the analyses unless otherwise indicated.

The Clinic Files contain information on women undergoing induced abortion in Alberta. Information on the health region of residence is not available in these files and regional comparisons on induced abortions are provided only from a site-of-service perspective. Abortion services provided to non-Alberta residents are not included in the analyses.

Spontaneous abortion data are derived from the Physician Claims database, an Alberta Health administrative database. Therefore, spontaneous abortion refers to clinical spontaneous abortions that are treated by physicians who submit fee-for-service claims to Alberta Health. Spontaneous abortions that are sub-clinical or patients with spontaneous abortion who did not contact physicians for the condition are not captured. For repeat spontaneous abortions, a two-month time lag between physician visits was used as the cutoff point for separate pregnancy episodes.

Method of delivery and induction data are derived from the Hospital Morbidity Files. Rates are calculated based on hospital deliveries only. Home births are not included in total deliveries in this section. Since only primary, secondary, and tertiary ICD-9-CM (International Classification of Disease-9th Revision-Clinical Modification) diagnostic and procedure codes were available from 1985/86 to 1991/92, the diagnostic and procedure criteria were based on the first three codes only. Thus, the number of procedures (especially minor procedures) may be under-counted. For data after 1991/92, 16 diagnostic and 10 procedure fields are available, but for consistency, only the first three have been used across the 12 year period. The detailed criteria used for data extraction are described under relevant tables.

The Alberta Medical Association Committee on Reproductive Care obtains mortality data from case reviews of stillbirth, neonatal and maternal deaths. Medical records departments of hospitals in Alberta provide the cases for review. Occurrences of stillbirths and neonatal and maternal deaths are verified by cross tracking cases through Vital Statistics. The data on mortality includes non-resident mothers that delivered in Alberta. It does not include babies born out-of-province who were transferred to Alberta and died in an Alberta hospital. Out-of-hospital birth information is obtained from live birth registrations provided by Vital Statistics. Morbidity data are provided by the neonatal and infant follow up clinics.

The national comparison data are extracted from Statistics Canada publications on births, therapeutic abortions and mortality. References are provided in each section.

Populations used for the calculations of rates are derived from the Alberta Health Care Insurance Plan Registration Files. They are estimated at March 31, as viewed at September 30 of each year. Provincial rate calculations include those with an 'unknown' health region code.

Both fiscal year and calendar year are used where appropriate for the data sources. Canadian national data are based on calendar year only. Thus, some comparisons between Canada and Alberta are approximate.

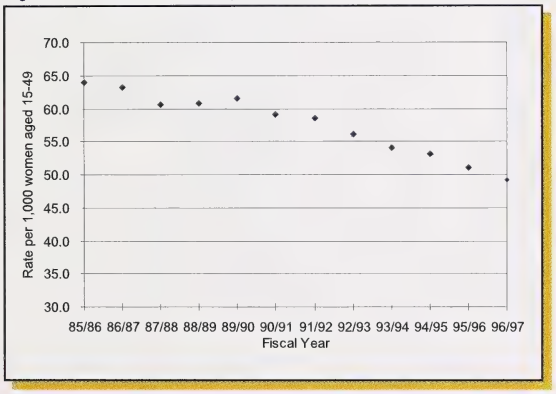
With rare events (e.g. stillbirth) or detailed breakdowns (e.g. live birth by age, region and year), rates may be based on small numbers and are therefore not statistically reliable. Caution should always be exercised in interpreting these rates. Because of differences in definitions and dates of extracting data for analysis, the statistics in this report may not be exactly the same as those published previously by Alberta Health.

Demographic Trends

Total Birth And General Fertility Rate

The number of births in Alberta has decreased dramatically over the past 12 years. In this time period, there was a 14% drop in the number of total births (live births and stillbirths), from 43,567 in 1985/86 to 37,439 in 1996/97. General fertility rate (GFR) is the number of live births per 1,000 females aged 15 to 49. In Alberta, GFR has declined from 63.9 per 1,000 women in 1985/86 to 49.3 in 1996/97, a 23% decrease over the 12 year time period. This linear trend of declining GFR is statistically significant (Figure 1).

Figure 1 General Fertility Rate, Alberta, 1985/86-1996/97



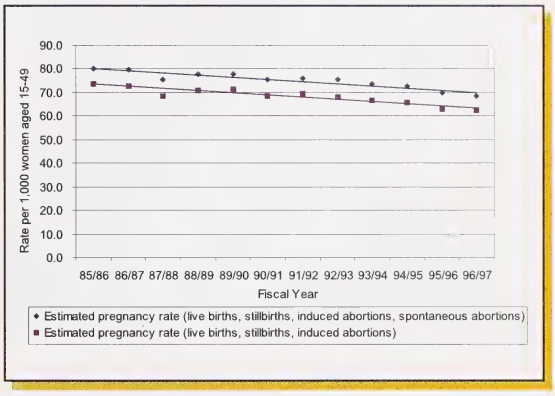
The total fertility rate (TFR) is the average number of children a woman can be expected to have in her lifetime, based on the fertility rates of a given year. To a certain extent, TFR reflects expected family size in a population. In Alberta, the total fertility rate has dropped to 1.74 per woman in 1996/97 from 1.84 per woman in 1985/86, remaining higher than the Canadian rate of 1.64 reported in 1995.

With the exception of regions 14, 15 and 17, Alberta's health regions have also experienced a decreasing GFR. As can been seen in Figure 2, there were significant regional differences, with eight regions having significantly higher GFRs and five regions showing significantly lower GFRs than the provincial average in 1996/97. (Figure 2)

Estimated Pregnancy Rates

The number of pregnancies can be estimated by totaling the number of live births, stillbirths and abortions (spontaneous and induced). However, the true number of conceptions in a population is difficult, if not impossible, to obtain, partly because some pregnancies are spontaneously aborted before they are recognized. The estimated number of pregnancies presented in this report includes registered live births and stillbirths, reported induced abortions, and spontaneous abortions where the women contacted health care professionals.

Figure 3 Estimated Pregnancy Rates, Alberta, 1985/86 - 1996/97

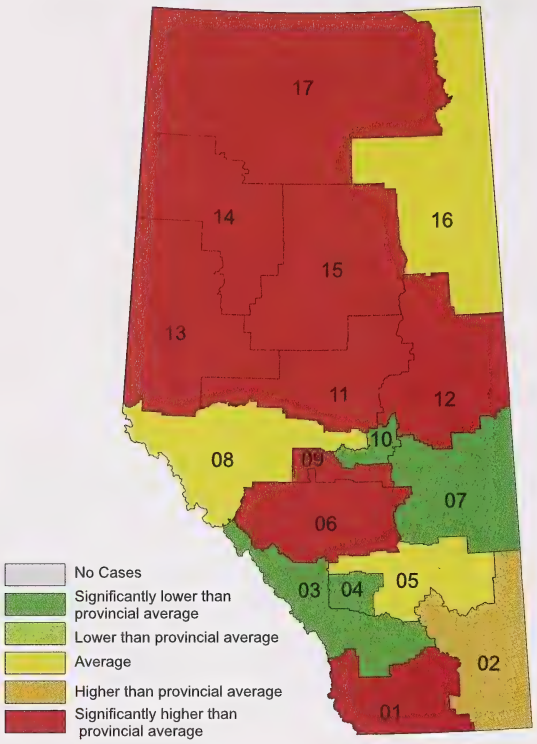


In Alberta, the estimated pregnancy rate has declined from 80.4 per 1,000 women aged 15 to 49 in 1985/86, to 68.6 in 1996/97 which is consistent with changes in live births. Examination of pregnancy rates across age groups shows that although the overall rates have been declining, rates for women aged 30 to 44 have been increasing. The highest pregnancy rates are seen in the 25 to 29 age group, accounting for about 30% of all pregnancies. (Appendix V: Table A4)

Maternal Age

The average age of pregnant women has increased by 1.5 years over the last 12 years, which is a statistically significant increase. In 1996/97, the mean maternal age for live birth, stillbirth, induced abortions and spontaneous abortions was 28, 28.1, 25 and 28.8, respectively. (Appendix V: Table A5) In general, the mean age of women who had an induced abortion is two to three years younger than that of mothers who had a live birth. In Alberta,

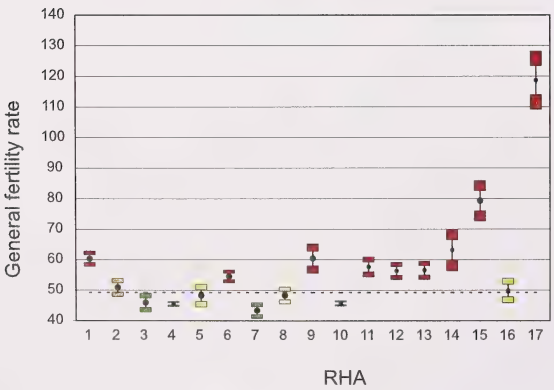
Figure 2 General Fertility Rate, Alberta, 1996/97



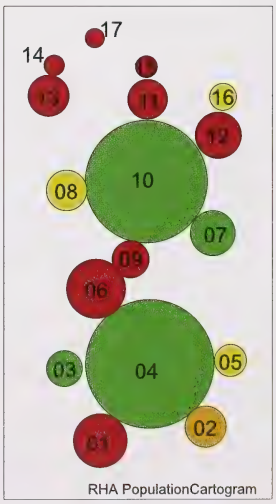
RHA	Live Births
01	2208
02	1132
03	859
04	11078
05	619
06	2553
07	1087
08	1148
09	591
10	9955
11	1179
12	1496
13	1318
14	324
15	529
16	582
17	550
Province	37209

Rates 1995, 1996, and 1997 (combined)

The map and graph show the same information, but the graph offers more detail: the black dot represents the rate for each region. The provincial rate is shown with a dotted line. The colour of each bar is consistent with the colour of the region in the map. The size of the bar represents the probability of error associated with the reported rate for the region. The rate is called "average" when the provincial rate is between the two bars. The rate is called "higher" or "lower" when the provincial average crosses the higher or lower bar. The rate is significantly higher or lower when the provincial rate is higher or lower than the higher or lower bar.



Provincial Rate = 49.28

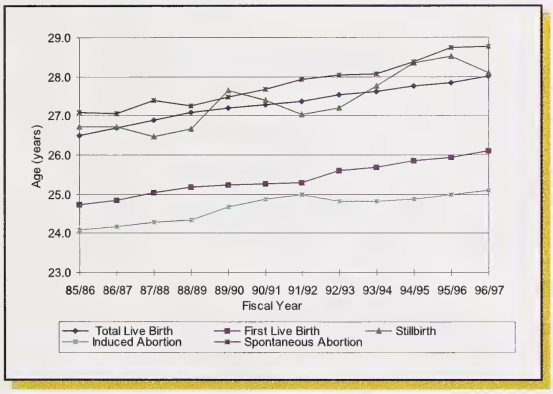


The cartogram displays the same information as the map. Each RHA is drawn proportional to its population, not its geographic size. The location of each RHA is based on an approximated relative location to other RHAs. The colour assigned to each RHA is the same as that used for the map and the graph.

the mean maternal age for women who had a live birth is about 0.4 years younger than that for Canada.

The trend of increasing maternal age may be explained partly by the aging of baby boomers (individuals born between 1946 and 1964). That is, there are a greater number of women in their late 30s and 40s compared to a decade ago. Therefore, we may expect this trend to diminish somewhat after the baby boomers move out of their reproductive years.

Figure 4 Mean Maternal Age At End Of Pregnancy, Alberta, 1985/86-1996/97



Another reason for the increase in mean maternal age may be a trend towards delayed childbearing. This is clearly indicated by the increase in maternal age at first birth. In Alberta, the average age of a mother at first birth has risen from 24.7 in 1985/86 to 26.1 in 1996/97. To a certain degree, women pursuing advanced education and careers may influence the trend for delayed motherhood. (Wadhera and Millar, 1996).

Delay in motherhood certainly has some implications for women's as well as infants' health and health services for women and children. Studies have shown that the risk of complications of pregnancy increases when a mother's age exceeds 30, and caesarean section rates are higher among older women (Millar, Nair and Wadhera, 1996). Older maternal age is known to be associated with higher risk of other adverse pregnancy outcomes, such as stillbirth, congenital anomaly and low birth weight (Wadhera and Millar, 1996; Maroulis, 1991).

Prenatal Care

Prenatal Classes

In Alberta from 1994 to 1996, over 68% of pregnant women 20 years or older attended prenatal classes for their first baby. However, only 45.4% of pregnant women 19 years or younger did so. Mothers attending prenatal classes are 40% less likely to have a low birth weight baby (Tough, Svenson and Schopflocher, 1998).

Prenatal Physician Visits

The number of prenatal care visits a woman makes to her physician or midwife varies. It depends on her health, the progresses of the pregnancy, the point in time she seeks prenatal care and her care provider's professional recommendations. It is common for a woman with an uncomplicated pregnancy who seeks care in her first trimester to have 13 or 14 prenatal visits. Overall, utilization of physician prenatal care is high. Over 77% of women in Alberta had six or more prenatal visits whereas 23% make five or less visits. Differences are evident between women living in various health regions. The range for four or more visits goes from 78% in Keeweetinok health region to 97% in East Central health region (Tough et al, 1998).

Table 1 Reported Prenatal Visits, Alberta, 1994 to 1996 Combined

Number of Visits	Number of Mothers	Percent (%)
0 - 2	1,961	2.2
5-Mar	18,006	20.5
12-Jun	59,010	67.1
13 or more	8,995	10.2
Total	87,972	100

Women having had four or less prenatal visits were more likely to deliver a pre-term infant (length of gestation was controlled for), low birth weight infant or a small for gestational age (SGA) infant. Mothers 35 and over were most likely to have had four or more visits (Tough et al, 1998).

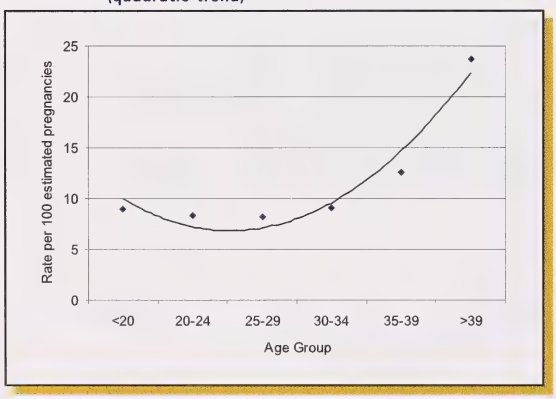
Abortions

Spontaneous Abortions

Spontaneous abortions are pregnancies terminated before the 20th complete week of gestation with no artificial induction. Spontaneous abortions reported in this document are estimated from the Alberta Health Physician Claims database. Thus, only women who had contacted health professionals regarding their spontaneous abortions were captured. Most spontaneous abortions are associated with abnormal products of conception and occur prior to clinical evidence of pregnancy (DeCherney & Pernoll, 1994).

In Alberta, approximately nine per cent of estimated pregnancies ended with spontaneous abortions and the rate of spontaneous abortion was 5.5 per 1,000 women aged 15 to 49. There is no statistical evidence for a rate change over time (Appendix V: Table A12). Figure 5 shows spontaneous abortions per 100 estimated pregnancies by maternal age. A regression analysis indicates a significant relationship between maternal age and risk of spontaneous abortions, suggesting that both younger and older women are at higher risk of spontaneous abortions (Figure 5).

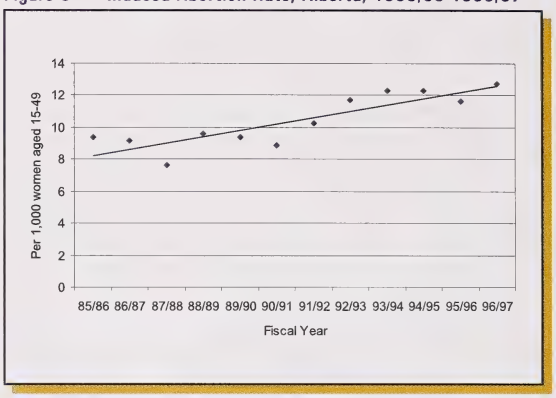
Figure 5 Percentage Of Spontaneous Abortions By Age Group (quadratic trend)



Induced Abortions

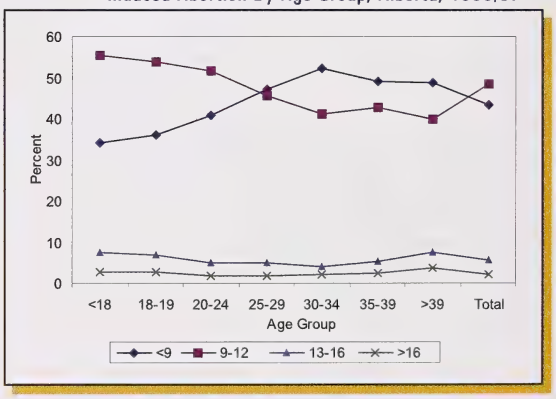
In Alberta, the total number of reported induced abortions has increased over the last 12 years from 6,356 in 1985/86 to 9,613 in 1996/97. Although the induced abortion rate per 1,000 women of childbearing age (15 to 49) saw a decrease from 1993/94 to 1995/96, it reached a high of 12.7 in 1996/97.

Figure 6 Induced Abortion Rate, Alberta, 1985/86-1996/97



Age-specific induced abortion rates vary with age. The highest rates are seen in the 20 to 24 age group, followed by those aged 15 to 19. While the induced abortion rates for most age groups have increased over the last 12 years, the rates for the youngest (under 15) and the oldest (over 40) groups remain low and fairly constant during the same time period (Appendix V: Table A14).

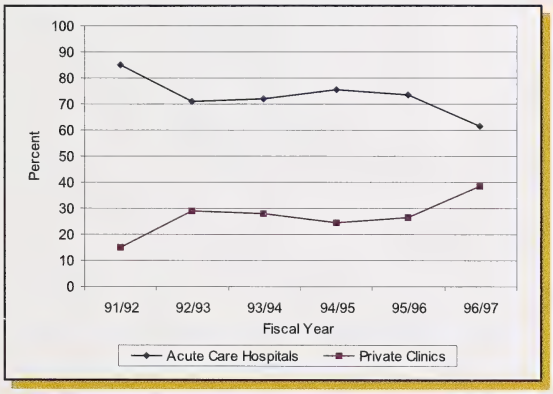
Figure 7 Percentage Distribution Of Gestation Week At Induced Abortion By Age Group, Alberta, 1996/97



Most induced abortions occur prior to 12 weeks gestation and only a few abortions occur after 16 weeks. In 1996/97, 92.2% of abortions were performed before 12 weeks gestation. It appears that women 30 years of age or older are more likely to have abortions done within eight weeks of gestation.

Alberta has provided abortions in some Edmonton and Calgary hospitals as well as some rural hospitals. In 1991/92, the first private abortion clinics opened in Alberta. Since then, the percentage of abortions performed in clinics has increased and now stands at 38.6% (Figure 8). In July 1996, the regional health authorities provided full funding to Alberta's private abortion facilities, which may have contributed to the increase in the number of procedures done at these clinics and the decrease in procedures done at hospitals in 1996/97(Appendix V: Table A15). Prior to the opening of the clinics the rural hospitals were performing 10 to 20% of the total procedures. This has now declined to 4.9% (Appendix V: Table A16).

Figure 8 Percent Distribution Of Induced Abortions By Facility Type, Alberta, 1991/92-1996/97

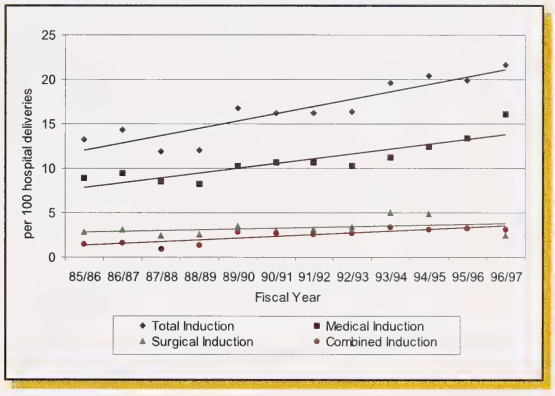


Deliveries

Type Of Labour

One of the most significant trends seen in obstetrics over the last decade is an increase in the induction rate (Figure 9). The provincial total induction rate has increased from 13.3% in 1985/86 to 21.7% in 1996/97. While the surgical induction rates have remained fairly constant over time, there has been a significant increase in medical induction. Many factors may have contributed to this. Figure 9 illustrates a steady increase in the medical induction rate from 12.4% in 1994/95 to 16.1% in 1996/97. One possible factor is the Society of Obstetricians and Gynaecologists of Canada's release of the *Management of Post Term Pregnancy* report in April 1994. This time period coincides with the sharpest rise in the medical induction rate. These guidelines suggested that women who reach 41 weeks gestation with an uncomplicated pregnancy, be offered induction of labour. A Revised Management of Post Term Pregnancy report was released by Society of Obstetricians and Gynaecologists in May 1997 which clarified that induction should be considered between 41 and 42 completed weeks - not by 41 weeks. This may influence the induction rate to level off or decrease in the future.

Figure 9 Induction Rates, Alberta, 1985/86-1996/97

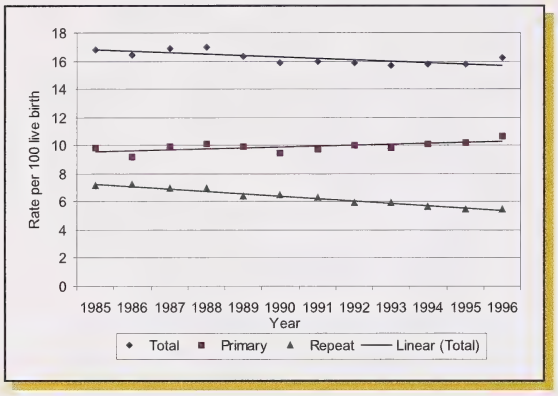


Method Of Delivery

Information included in this report on method of delivery is limited to the discussion of operative delivery.

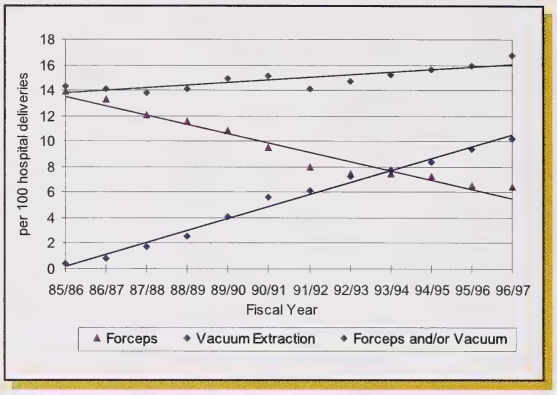
Figure 10 shows that the total caesarean section rate has slightly decreased over time, as has the repeat caesarean section rate. However, the primary caesarean section rate has remained relatively stable during the same time period.

Figure 10 Primary And Repeat Caesarean Section Rates, Alberta, 1985-1996



The data reported on the methods of forceps and vacuum extractions are not mutually exclusive. In the last 12 years, the total number of women having deliveries with forceps and/or vacuum extraction has increased from 14.3% in 1985/86 to 16.7% in 1996/97 (Appendix V: Table A22). However, the changes of rates for forceps and vacuum extraction are in different directions. The forceps rate has decreased over time while the use of vacuum extraction showed an increase (Figure 11).

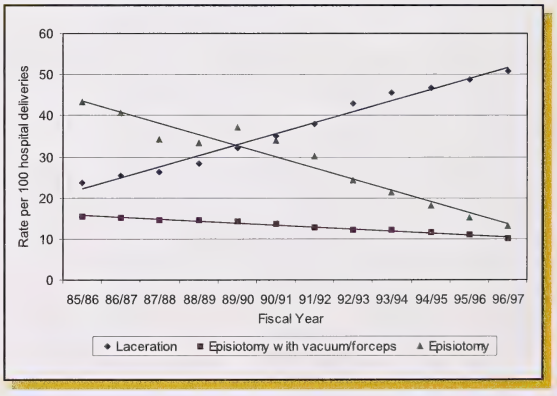
Figure 11 Forceps And Vacuum Extraction Rate, Alberta, 1985/86-1996/97



Perineal Lacerations And Episiotomies

For women who deliver vaginally without forceps or vacuum, the episiotomy rate has decreased from a high of 43.4% in 1985/86 to a low of 13.2% in 1996/97. The laceration rate (which includes lacerations occurring with an episiotomy) has doubled from 23.7% in 1985/86 to 50.8% in 1996/97. Episiotomy rates in 1996/97 varied among the regional health authorities from a low of 6.5% to a high of 26% (Appendix V: Table A27).

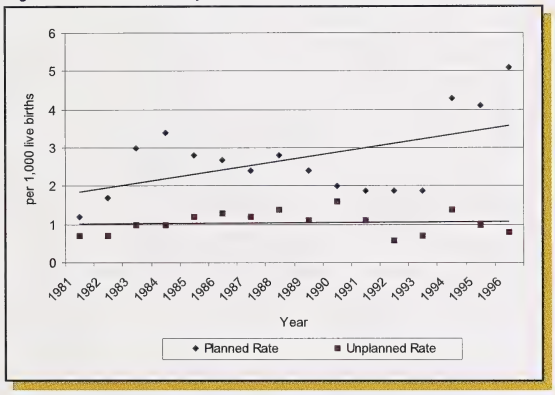
Figure 12 Episiotomy And Laceration Rates, Alberta, 1985/86-1996/97



Out-Of-Hospital Births

Out-of-hospital births include both planned and unplanned births. Figure 13 shows the trend of out-of-hospital births from 1981 to 1996. This information is based on live birth registrations for babies born out-of-hospital and case information on perinatal and neonatal deaths. There were 219 out-of-hospital births reported by Vital Statistics in 1996. Of these, 196 (including two early neonatal deaths) were planned and 35 (including one still-born and one late neonatal death) were unplanned. It is expected that the number of planned home births will increase with the registration of mid-wives. The information on home births is all prior to the registration of midwives, which took place in Alberta effective July 1998.

Figure 13 Out-of-Hospital Live Birth Rates, Alberta, 1981-1996



Birth Attendant

Physicians were identified as the primary birth attendant in greater than 99% of all births in the Province of Alberta in 1996/97. Midwives were identified as the primary birth attendant in less than 0.5% of provincial births (Appendix V: Table A30). Registration of midwives was not available until July of 1998.

In this report, the most responsible doctor is defined as the attending physician most responsible for the care of the patient and/or for the longest length of stay (Canadian Institute of Health Information, 1995). Data analyses based on this definition indicate that in 1996/97, 49% of the women who were delivered in hospital were attended by family physicians while 50% were attended by obstetricians/gynecologists (Appendix V: Table A32 and Table A33). There is variation among regional health authorities with regard to the percentage of births by obstetricians. While low volume is explained in regions that do not have obstetricians, there is great variation among urban centres (Appendix V: Table A33).

Birth Outcomes

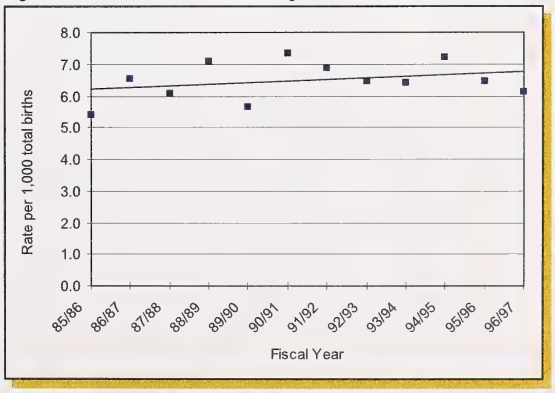
Live Births

The number of live births in Alberta has been decreasing consistently. In 1985/86 there were 43,330 live newborns and the number has dropped to 37,209 in 1996/97. In 12 years, the total number of live births has declined 14%. While women aged 20 to 29 account for approximately 32% of all births (the highest among all age groups), fertility rates in this age group have been decreasing. Fertility rates for women over the age of 30 have been increasing over the same time period (Appendix V: Table A7).

Stillbirths

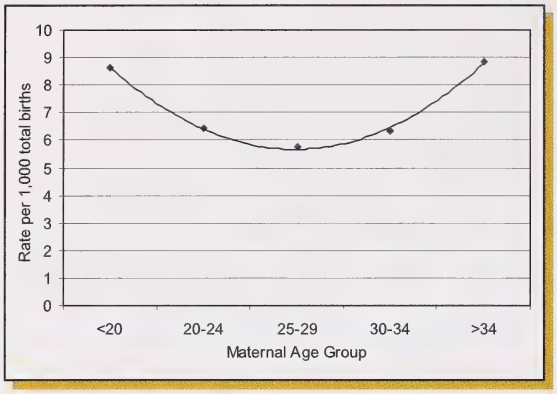
The number of stillbirths occurring in Alberta has fluctuated over the past 12 years, ranging from 230 to 315. Figure 14 shows the stillbirth rate per 1,000 total births. Since 1985/86 the stillbirth rate has varied from as high as 7.4 per 1,000 total births to as low as 5.4 per 1,000 total births. The stillbirth rate plateaued from 1991 to 1994 and has since shown a decrease with a rate of 6.3 per 1000 births in 1996. The stillbirth rate for babies 500 grams or greater was 4.4 per 1,000 total births, compared to a rate of 4.5 in 1995. When corrected for congenital anomalies the stillbirth rate for 1996 was 3.3 per 1,000 total births compared to a corrected rate of 3.5 in 1995.

Figure 14 Stillbirth Rate (all weight), Alberta, 1985/86-1996/97



The proportion of stillbirths over total births varies across maternal age groups. Figure 15 shows that both younger and older mothers are at higher risk of having stillbirths than women aged between 20 and 34.

Figure 15 Stillbirth Rate By Age Group Of Mother (quadratic trend)



Low Birth Weight

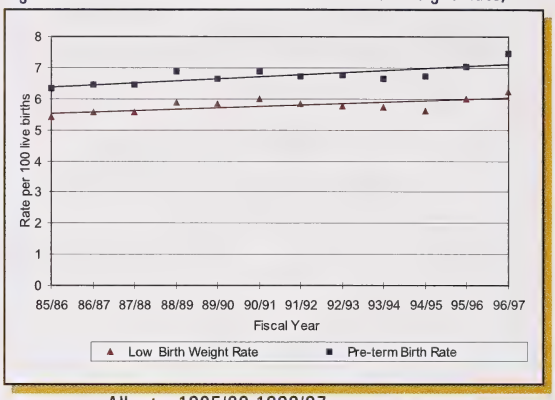
Birth weight is an important indicator of infant health. As a group, low birth weight (LBW) babies (< 2500 grams at birth) are more likely to experience birth defects, visual and hearing impairments, delayed speech, other disabilities and excessive illness (Kramer, 1987; Wynn & Wynn, 1997). Evidence is also growing on the relationship of LBW and adult onset of some diseases and the influence on lifelong health.

LBW babies include infants born at term but at a low weight for their gestational age (small for gestational age, SGA) and babies born prematurely. The latter are LBW but may or may not be within a normal weight range for their gestational age. The causes for these different types of low birth weight vary.

In Alberta, the percentage of LBW births has varied from 5.4% in 1985/86 to 6.2% in 1996/97. While the rates have fluctuated from year to year, there is an overall increasing trend.

In Alberta, about 55% of pre-term births (less than 37 weeks gestation) are LBW infants, compared to 2.2% among term births. Pre-term LBW infants comprise about 65% of the total LBW births. Figure 16 shows that the pattern of change over time in LBW parallels the change in pre-term births. This indicates that pre-term and LBW births may share similar risk factors.

Figure 16 Pre-term Birth Rate And Low Birth Weight Rate, Alberta, 1985/86-1996/97



In 1996 the LBW rate for Alberta was 6.2%, above the national rate of 5.7% and the highest among all provinces in Canada.

Figure 17. Low Birth Weight Rate For Selected Provinces And Canada, 1996

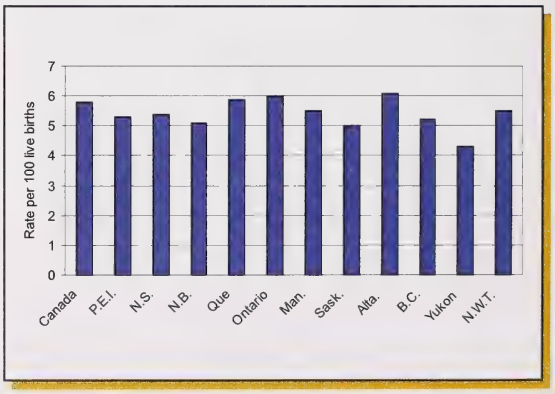
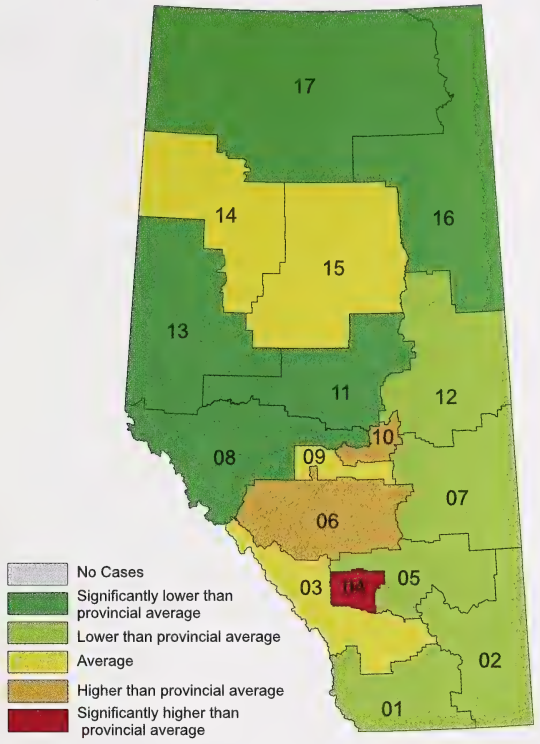


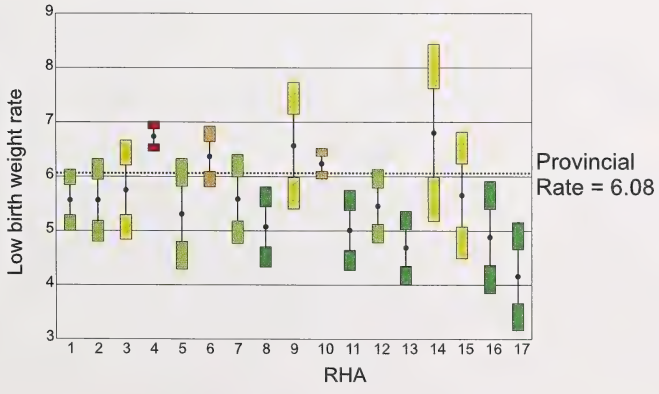
Figure 18 Low Birth Weight Rates By Residence RHAs, Alberta, 1995, '96 and '97 Combined

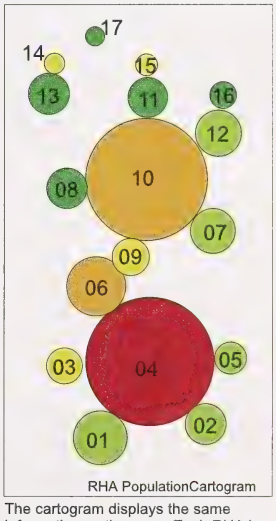


RHA	Births
01	372
02	201
03	149
04	2256
05	103
06	490
07	176
08	179
09	119
10	1884
11	175
12	249
13	184
14	65
15	89
16	85
17	67
Province	6843

Rates 1995, 1996, and 1997 (combined)

The map and graph show the same information, but the graph offers more detail: the black dot represents the rate for each region. The provincial rate is shown with a dotted line. The colour of each bar is consistent with the colour of the region in the map. The size of the bar represents the probability of error associated with the reported rate for the region. The rate is called "average" when the provincial rate is between the two bars. The rate is called "higher" or "lower" when the provincial average crosses the higher or lower bar. The rate is significantly higher or lower when the provincial rate is higher or lower than the higher or lower bar.





The cartogram displays the same information as the map. Each RHA is drawn proportional to its population, not its geographic size. The location of each RHA is based on an approximated relative location to other RHAs. The colour assigned to each RHA is the same as that used for the map and the graph.

LBW rates for regional health authorities in Alberta for 1996/97 varied from 3.8% births to 7.6%. Based on three years (1995, '96 and '97) of combined data, there is only one health region (Calgary) with a significantly higher rate than the provincial average, while five regions have significantly lower rates (Figure 18).

Since 1989/90, the LBW rate has included live newborns weighing less than 500 grams. The number of live births in this category has increased steadily (Appendix V: Table A34). This may be a reflection of changes in registration and reporting (Svenson and Schopflocher, 1997) as well as improvements in or access to perinatal care. With new advances in medical technology and treatment, it is possible to resuscitate some extremely low birth weight infants who might have been classified as stillbirths in the past (Joseph and Kramer, 1996; Cartlidge and Steward, 1995). The largest percentage of LBW infants (82%) weighs between 1,500 and 2,500 grams (Appendix V: Table A37).

Pre -Term Births

Alberta's rate of pre-term birth (<37 weeks gestation) was 7.5% in 1996/97 and has steadily increased since 1985/86. This trend mirrors what is occurring nationally (Canadian rate was 7.1% for 1996). The Pre-term Prevention Conference held in Ottawa in April 1998 recognized that pre-term labour was rising nationally and needed to be examined further. A summary of the conference can be obtained from the Coordinator, Perinatal Education Program of Eastern Ontario (PEPEO) at 401 Smyth Road Ottawa, Ontario, K1H 8L1.

There are several factors that are related to pre-term birth. A recent study of Alberta women (Tough, et al, 1998) found that pre-term birth was most frequent among smokers (nine per cnet). Smokers were at greater risk of having a stillborn, LBW, SGA or pre-term infant. Smoking rates were highest among mothers under 20 years of age at 57.4% compared to those aged 35 and over at 18.5%.

Risk Factors for Low Birth Weight

Low Birth Weight And Pre-term Multiple Births

The rate of pre-term multiple births also affects the LBW rate. In 1996/97 in Alberta, 56% of multiple birth newborns were LBW and 57% were pre-term (Appendix V: Table A41). In contrast, among single live births, the LBW rate and the pre-term birth rate were 4.8% and 6.2%, respectively.

Approximately two per cent of all live births are multiple births and this rate has been increasing (Figure 20). The multiple birth rate has increased from 2.1% in 1991/92 to 2.5% in 1996/97. The percentage of pre-term multiple births has increased from 45% in 1993/94 to 57% in 1996/97 (Appendix V: Table A41). The percentage of multiple birth LBW babies has also increased from 46% to 56% for the same time period.

The increase in the multiple birth rate is not substantial in magnitude and LBW multiple births only constitute about 20% of the total LBW infants. However, the high LBW rate among multiple births will have an impact on the provincial LBW rate and implications for perinatal care.

Low Birth Weight and Maternal Risk Factors

Young and older maternal age mothers have higher rates of LBW with factors associated with LBW being somewhat different for each age category. Poverty, smoking, low educational attainment and inadequate prenatal care are commonly identified risk factors particularly for teenage mothers.

Figure 19 Low Birth Weight Rate By Age Of Mother (quadratic trend)

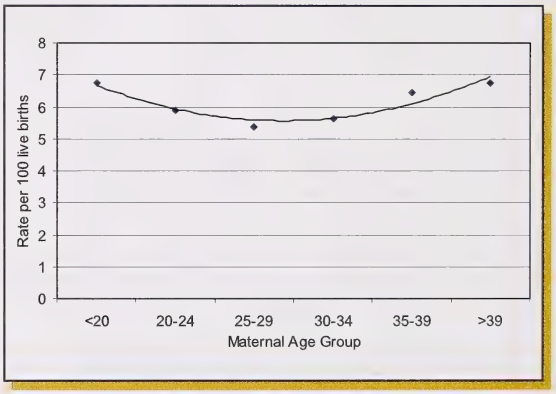


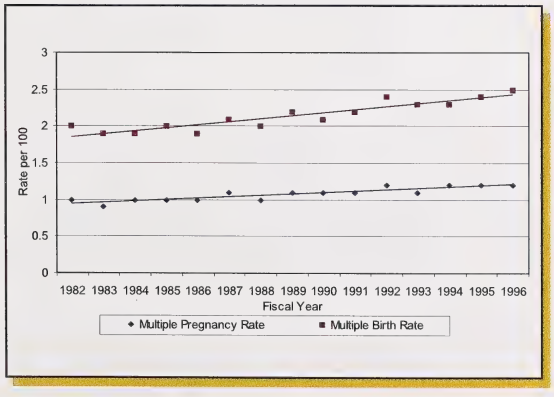
Figure 19 shows the LBW rate by age group of mother. This graph indicates increased risk of LBW for both young and older mothers. The rates of pre-term birth by age group shows a similar pattern with higher rates for mothers less than 20 years of age and mothers aged 35 and older (Appendix V: Table A39). This is consistent with findings that mothers over age 35 are at an elevated risk to deliver pre-term, LBW, SGA, or multiple babies (Tough, et al, 1998).

Smoking, alcohol use, and other maternal behaviours are important factors in achieving healthy birth outcomes. Provincial data suggest that infants born to mothers who consumed alcohol and/or smoked cigarettes were at increased likelihood of being pre-term, LBW, and SGA than infants born to mothers who do not drink and/or smoke (Tough, et al, 1998). This is also reflected in infants of mothers who report using street drugs. Those who used street drugs were also more likely to consume alcohol and smoke.

Multiple Births

In the discussion below, multiple pregnancy refers to a woman who was pregnant with more than one fetus and had delivered a live born or stillborn. Multiple birth refers to birth in which more than one infant is born, including live births and stillbirths. In Alberta, the rate of multiple pregnancy from 1982 to 1996 has been increasing (Figure 20). When comparing the number of multiple births to total births the percentage of multiple births has shown a steady increase. Although the total number of births in Alberta has continued to decline, a greater proportion of these births are multiple. In 1996, 1.2 % of all pregnancies that delivered were multiple pregnancies. This is consistent with 1994 and 1995 data. However, the percentage of multiple births increased to a rate of 2.5% in 1996. The perinatal mortality rate for multiple births in 1996 was 50.5 per 1,000 total multiple births — a decrease from a rate of 59.0 in 1995 (Appendix V: Table A42).

Figure 20 Multiple Pregnancy and Multiple Birth Rates, Alberta, 1982-1996



The perinatal mortality rate for multiple births has fluctuated over time with rates as low as 45.8 per 1,000 total multiple births in 1985 to as high as 71.8 per 1,000 in 1990. Nationally and internationally there is concern over apparent increases in high-order (higher number of babies born from one pregnancy episode) multiple births. This increase has been attributed to older mothers giving birth and the use of fertility enhancing drugs and procedures (CDC - FASTATS, www.cdc.gov). Canada held a consensus conference on multiple pregnancies in Toronto, in December 1998 to address this concern.

Multiple Births By Hospital Of Delivery

In Alberta, the majority of multiple pregnancies are delivered in hospitals with Level III or Level II care (see Appendix III for definitions). In 1996, 48% of multiple pregnancies delivered in Level III hospitals; 46% delivered in Level II hospitals and five per cent delivered in Level I hospitals. All the higher-order multiple births were delivered in Level III hospitals. The Committee on Reproductive Care recommends delivery of multiple pregnancies in Level III or Level II hospitals due to the increased risk of perinatal mortality associated with multiple births. A review of deaths of multiple birth babies in 1996 showed that the majority of babies weighed less than 1,000 grams and died of extreme immaturity.

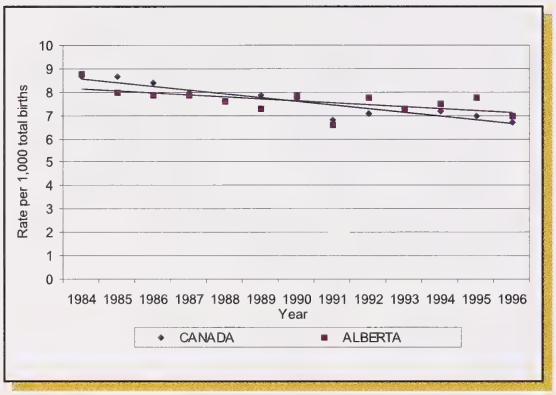
Infant Mortality

Perinatal Mortality

National Comparison

Perinatal mortality includes stillbirths and early neonatal deaths. A fetal death in Alberta is registered as a stillbirth if delivery occurs at or after 20 weeks of pregnancy or if the fetal weight is 500 grams or greater when the gestational age is not known. Early neonatal mortality includes the death of a newborn before seven days of age. Perinatal mortality nationally and provincially has shown an overall decline with some fluctuations. National comparisons for perinatal mortality are made with late fetal deaths (28 weeks gestation or greater) plus early neonatal deaths (all weights), due to the variations in the definition of stillbirth across the country. By this definition, the Alberta perinatal mortality rate of 7.0 per 1,000 total births in 1996 is slightly higher than the national rate of 6.7(Appendix V: Table A45).

Figure 21 Perinatal Mortality Rates, Canada Alberta, 1984-1996

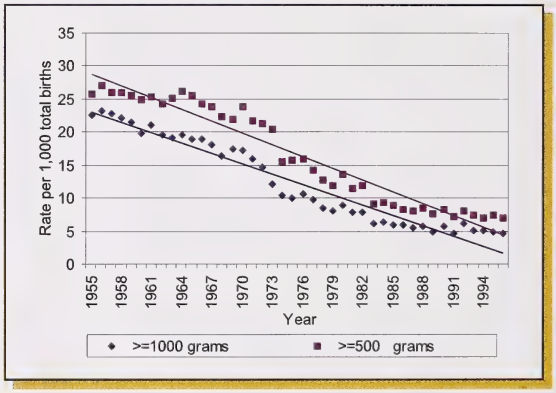


Alberta Perinatal Mortality

There were 241 stillbirths in Alberta in 1996, compared to 264 in 1995. Stillbirths accounted for 60% of total stillbirth and neonatal deaths (399). Antepartum deaths accounted for 67% while intrapartum deaths accounted for 33% of stillbirths, an increase over the 1995 value of 23%. Nearly three-quarters (73%) of stillbirths were under 2,500 grams and 56% of all stillbirths weighed less than 1,500 grams. According to the Wigglesworth classification (Appendix IV), prematurity accounted for 49% of stillbirths; congenital anomalies accounted for 19%; abruptio was a factor in 15% (29 antepartum and eight intrapartum); and 2.5% of babies were 1,000 grams or greater and died intrapartum with evidence of cerebral birth trauma or asphyxia. There were 14% (33) stillborn deaths classified with specific conditions.

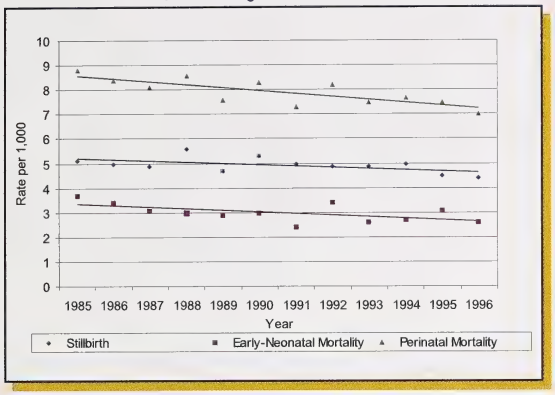
In Alberta, there has been a decline in perinatal mortality, with some fluctuations. In 1996, the overall (all weights and not corrected for congenital anomalies) perinatal mortality rate was the lowest ever achieved in Alberta with a rate of 9.7 per 1,000 total births. In Alberta, for 1996 the perinatal mortality rate for babies 1,000 grams or greater was 4.6 compared to a rate of 5.0 per 1,000 total births. When corrected for congenital anomalies the rate is 3.1 in 1996, down from 3.3 in 1995.

Figure 22 Perinatal Mortality Rates, Alberta, 1955-1996



The perinatal mortality rate for babies 500 grams or greater was 6.9 in 1996 compared to a rate of 7.5 in 1995. When corrected for congenital anomalies the rate dropped to 5.0 for 1996 and 5.4 for 1995. The trend for perinatal mortality rates in Alberta, excluding babies with a weight less than 500 grams, is depicted in Figures 22 and 23.

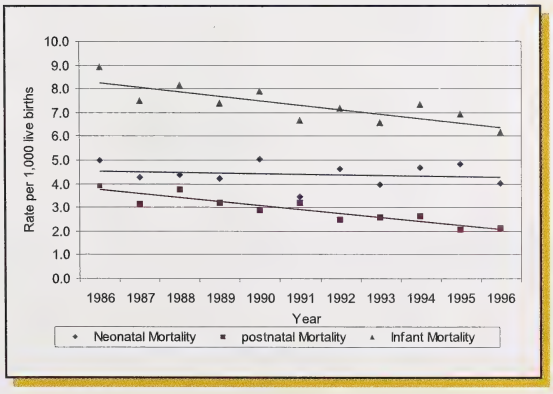
Figure 23 Stillbirth, Early-Neonatal And Perinatal Mortality Rates (> =500 grams), Alberta, 1985 - 1996



Infant Mortality

Infant mortality includes all babies who died before 12 months of age. Over the past 12 years infant mortality in Alberta has shown a significant decline, from a rate of 8.9 per 1,000 births in 1986 to a rate of 6.2 in 1996 (Figure 24). This decline is consistent with national declines in infant mortality. The Alberta infant mortality rate of 6.2 was higher than the national rate of 5.6 in 1996. Excluding those born weighing less than 500 grams, the Alberta infant mortality rate was 5.3 per 1,000 live births compared to the national rate of 4.8 per 1,000 live births in 1996. In terms of regional differences, the 1995, 1996 and 1997 combined infant mortality data indicate that the provincial rate was 6.0. One region (RHA 4), had a statistically significant lower rate and one (RHA 9) a significantly higher rate (Figure 25).

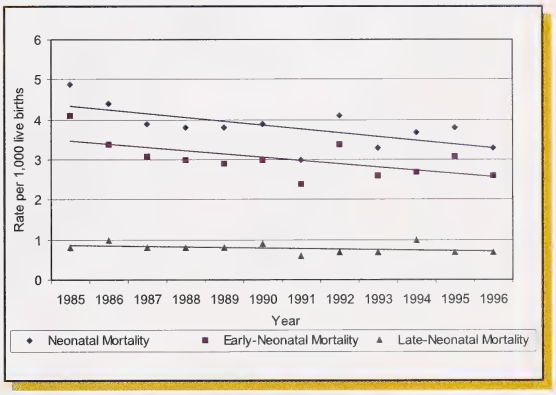
Figure 24 Neonatal, Post-neonatal and Infant Mortality Rates, Alberta, 1986-1997



Neonatal Mortality

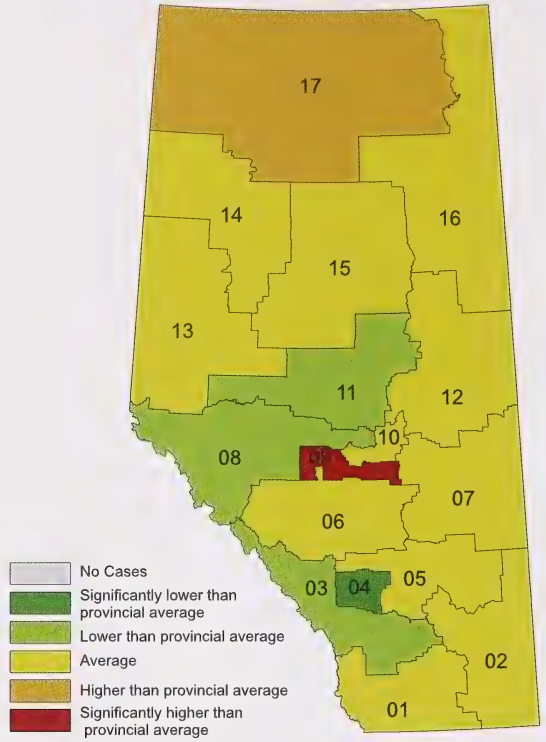
Neonatal mortality includes all babies who were born alive but who died prior to 28 days of age. The Alberta neonatal mortality rate of 4.2 per 1,000 live births is comparable to the national rate of 3.9 for 1996. The Alberta neonatal mortality rate, excluding those born weighing less than 500 grams, declined significantly from a rate of 4.9 per 1000 births in 1985 to 3.3 in 1996. The national neonatal mortality rate excluding those born weighing less than 500 grams was not available for this report. When corrected for congenital anomalies the Alberta neonatal mortality rate in 1996 for babies 500 grams or greater was 2.2 per 1,000 live births. National data for comparison were not available.

Figure 26 Neonatal Mortality Rates (> =500 grams), Alberta, 1985-1996



Neonatal mortality rates include both early (less than seven days) and late (seven to 28 days) neonatal deaths. The early neonatal death rate in Alberta declined in 1996 to a rate of 3.5 per 1,000 live births from a rate of 4.2 in 1985. The national early neonatal death rate for 1996 was 3.3. The early neonatal mortality rate excluding those born weighing less than 500 grams was 2.7 per 1,000 live births in 1996 compared to a rate of 3.1 in 1995 (Figure 26). National data excluding those weighing less than 500 grams were not available for this report. When corrected for congenital anomalies, the Alberta early neonatal mortality rate for babies 500 grams or greater was 1.8 per 1,000 live births.

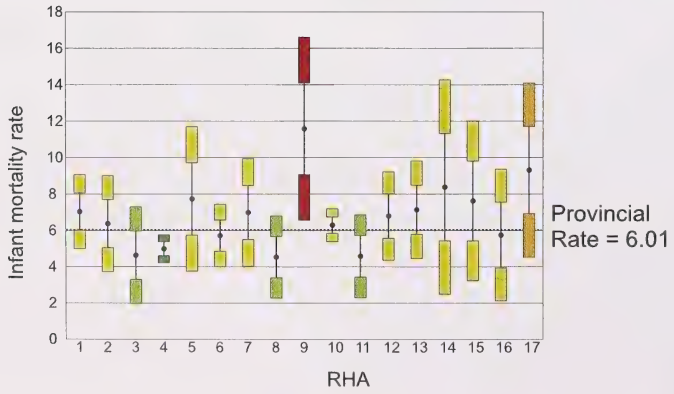
Figure 25 Infant Mortality Rate By Residence RHA, Alberta, 1995, '96, '97 combined

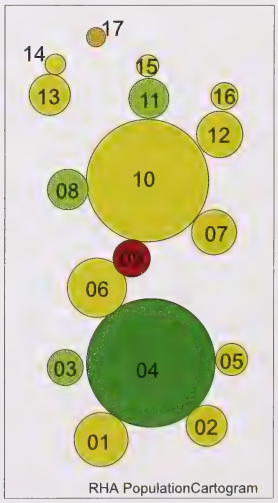


RHA	Deaths
01	47
02	23
03	12
04	167
05	15
06	44
07	22
08	16
09	21
10	190
11	16
12	31
13	28
14	8
15	12
16	10
17	15
Province	**677**

Rates 1995, 1996, and 1997 (combined)

The map and graph show the same information, but the graph offers more detail: the black dot represents the rate for each region. The provincial rate is shown with a dotted line. The colour of each bar is consistent with the colour of the region in the map. The size of the bar represents the probability of error associated with the reported rate for the region. The rate is called "average" when the provincial rate is between the two bars. The rate is called "higher" or "lower" when the provincial average crosses the higher or lower bar. The rate is significantly higher or lower when the provincial rate is higher or lower than the higher or lower bar.





The cartogram displays the same information as the map. Each RHA is drawn proportional to its population, not its geographic size. The location of each RHA is based on an approximated relative location to other RHAs. The colour assigned to each RHA is the same as that used for the map and the graph.

The Alberta late neonatal death rate has remained constant over the last 12 years. The rate for 1996 was 0.7 per 1,000 live births (Figure 26). This rate excluded babies born less than 500 grams, as none of these babies survived beyond the early neonatal period. The national late neonatal mortality rate was 0.6 per 1,000 live births in 1996. This rate was calculated using the overall neonatal mortality rate and the reported early neonatal mortality rate. When corrected for congenital anomalies the Alberta late neonatal mortality rate was 0.4 for babies 500 grams or greater.

(Sources for national data: Russell Wilkins, Vital Statistics Data Unit, Health Statistics Division 613-951-5305. Health Canada, Health Protection Branch, Canadian Perinatal Surveillance System - Infant Mortality 1998 publication.)

Post-Neonatal Mortality

Post-neonatal mortality includes all babies who died between 28 days and less than 12 months of age. Consistent with the decrease in infant mortality, the post-neonatal mortality rate for Alberta also showed a significant decline from 1986 to 1997, from a rate of 3.9 per 1,000 live births to a rate of 1.3 (Figure 24). When compared to 1996 national data, the Alberta post-natal mortality rate of 2.1 per 1,000 live births was slightly higher than the national rate of 1.7. (Appendix V: Table A59).

Factors Associated With Perinatal And Neonatal Mortality In Alberta In 1996

The Alberta Medical Association Committee on Reproductive Care reviews all perinatal and neonatal deaths in the province of Alberta. Perinatal and neonatal mortality rates by region and facility of birth are provided in Appendix V: Tables A55 and A56. Peer review of post-neonatal deaths is not currently performed on a provincial basis in Alberta. The factors associated with perinatal and neonatal mortality described are based on case reviews.

Maternal Factors

Maternal factors associated with stillbirths and neonatal deaths are obtained through case review of health records received for stillbirth and neonatal deaths. The information is obtained from the Alberta Prenatal Record and Alberta Prenatal Risk Assessment. Limitations for this data set include underreporting and missing data. From an analytical per spective, factors are not mutually exclusive (Appendix V: Table A58).

Maternal Factors And Stillbirths

The most frequent maternal factors reported for antepartum deaths in 1996 were smoking, decreased fetal movements and intrauterine infection. For intrapartum deaths the most frequently reported factors were pre-term labour, intrauterine infection and pre-term rupture of membranes. Overall maternal factors were reported more frequently in antepartum deaths compared to intrapartum deaths.

Maternal Factors And Neonatal Deaths

The most frequently reported maternal factors in neonatal deaths were pre-term labour, pre-term rupture of membranes, bleeding and smoking. Maternal factors were reported more frequently in early neonatal deaths compared to late neonatal deaths.

Maternal Smoking

In 1996, smoking history was reported for 36,490 women who delivered a baby. Of these women 26% (9,359) smoked during their current pregnancy. Smoking continues to be a frequently reported risk factor in perinatal and neonatal deaths. In 1996 smoking was reported as a risk factor in 33% of stillbirths and neonatal deaths. An evaluation by Li, Windsor, Perkins, Goldenberg and Lowe (1993) suggested that smoking cessation and smoking reduction were positively associated with an increase in infant birth weight. Data from the 1994/1995 National Longitudinal Survey of Children and Youth as reported by Millar and Chen (1998), revealed 12% of children younger than age two whose mothers had smoked while pregnant had been small for gestation age (SGA), compared with only four per cent whose mothers had not smoked.

Maternal Factors, Gestation And Birthweight

Maternal factors most frequently reported with preterm gestation and birth weight less than 2,500 grams included a history of bleeding, pre-term labour, infection, and smoking. Decreased fetal movements, smoking and infections were most frequently reported factors for perinatal and neonatal deaths at term.

Maternal Age

The age range of mothers giving birth in Alberta in 1996 was from 12 to over 45 years. The age range of mothers with a stillbirth or neonatal death in 1996 was 15 to 43 years. The percentage of total births for women 17 years of age or younger in 1996 was 3.3% compared to 2.7% in 1995. The perinatal mortality rate of 8.4 per 1,000 total births and neonatal mortality rate of 7.7 per 1,000 live births decreased in this group when compared to 1995.

The percentage of total births for women 35 years of age or older was 19% compared to 10.2 % in 1995. The perinatal mortality rate of 8.0 per 1,000 total births and neonatal mortality rate of 2.7 per 1,000 live births decreased in this group from 1995. Births to women 40 years of age or older represented 1.5% of total births in Alberta with a perinatal mortality rate of 15.3 per 1,000 total births and a neonatal mortality rate of 5.2 per 1,000 live births, a decrease from 1995 (Appendix V: Table A51).

Fetal And Neonatal Factors

Birthweight And Mortality

In Alberta in 1996, 6.3 % of total births and 6.1 % of live births weighed less than 2,500 grams. The perinatal mortality rate for this group of babies was 109 per 1,000 total births compared to a perinatal mortality rate of 2.6 per 1,000 total births for babies with weights 2,500 grams or greater. The neonatal mortality rate for babies less than 2,500 grams was 50.9 per 1,000 live births compared to a neonatal mortality rate of 1.2 for babies weighing 2,500 grams or greater (Appendix V:Table A62).

Intrauterine Growth Restriction

Intrauterine growth restriction (birth weight less than the 10th percentile for gestational age) in 1996 for singletons was a factor in 35% of singleton perinatal deaths and 23% of singleton neonatal deaths. Intrauterine growth restriction was a factor in multiple births for 23% of multiple perinatal and 16% of multiple neonatal deaths in 1995. (Appendix Table A44).

Gestational Age

Gestational age is a major factor in perinatal and neonatal mortality due to the problems associated with immaturity and low birth weight. In 1996, 7.5% of live births, 73% of stillbirths and 72% of babies who died in the neonatal period were born before 37 weeks gestation. The perinatal mortality rate for this group of babies was 91 per 1,000 total births and the neonatal mortality rate was 40 per 1,000 live births. These rates decreased from those in 1995 (Appendix V: Table A54).

Congenital Anomalies

Congenital anomalies were reported for 24% of stillbirth and neonatal deaths in 1996 compared to 25% in 1995. Of these deaths, 15.5% had chromosomal anomalies, 19% had neural tube and other CNS defects, 26% had cardiovascular and respiratory anomalies, and 15% had other or unspecified anomalies. These figures are comparable to 1995, with fewer deaths due to chromosomal anomalies. This may be due to earlier diagnosis and termination of pregnancy prior to 20 weeks gestation (Appendix V: Table A49).

Causes Of Stillbirths and Neonatal Deaths

Neonatal

There were 158 neonatal deaths in 1996, accounting for 40% of total stillbirth and neonatal deaths (399). Early neonatal deaths (133) accounted for 84% of total neonatal deaths (158) and late neonatal deaths (25) accounted for 16% of total neonatal deaths. According to the classification by Wigglesworth, prematurity was a factor in 47% of neonatal deaths; congenital anomalies accounted for 27%; and 11% had evidence of birth trauma or asphyxia. There were 11% (18) with defined specific conditions.

Autopsy

The Committee on Reproductive Care encourages autopsy to confirm or determine the cause of stillbirths. In 1996, the Alberta autopsy rate for stillbirths and neonatal deaths was 43%, a decrease from a rate of 49% in 1995 (Appendix V: Table A63). The committee revised and circulated a protocol for the investigation of stillbirths that recommends autopsy for all stillborns.

Perinatal And Neonatal Statistics Level Of Care At The Hospital Of Birth

In 1996, 90 hospitals in Alberta reported births, compared to 95 hospitals in 1995 and 102 hospitals in 1994. This was due to the conversion of smaller regional hospitals to extended care centres. Of the hospitals reporting no birth (28), 17 were in northern Alberta and 11 in southern Alberta. There was a further loss of obstetrical services in two hospitals in the north and three hospitals in the south compared to 1995.

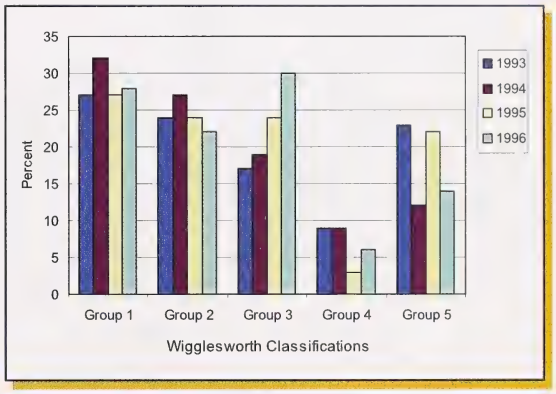
In 1996, 25% of births occurred in Level III hospitals, 50% in Level II hospitals and 25% in Level I hospitals, as compared to 1995 when slightly fewer births occurred in Level III hospitals (two per cent). This change was evenly distributed to Level II and Level I hospitals.

The perinatal mortality rate increased in Level III hospitals to 13.9 per 1,000 total births compared to a rate of 10.2 in 1995, whereas the neonatal mortality rate decreased to 7.4 per 1,000 live births compared to a rate of 8.2 in 1995. Both Level II and Level I hospitals experienced a decrease in both perinatal and neonatal mortality rates. The caesarean section rates increased overall. The percentage of babies born weighing less than 2,500 grams increased from 6.1% in 1995 to 6.2% in 1996. Generally, there was no change in the proportion of low birth weight babies delivered by level of hospital when compared to 1995 (Appendix V: Table A56).

Wigglesworth Classification

The Provincial Committee on Reproductive Care and hospital perinatal review committees have used a modified version of the Wigglesworth Classification for the last four years (Keeling, J.W. MacGillvray, I. Golding, J. Wigglesworth, J.; et al 1989. A summary of perinatal and neonatal deaths classified according to Wigglesworth from 1993 to 1996 is presented in Figure 27.

Figure 27 Wigglesworth Classification Of Perinatal And Neonatal Deaths, Alberta, 1993-1996



Refer to Table 2 for the following discussions:

Group 1 - Deaths before the start of labour

According to the Wigglesworth Classification, 28% (27% in 1995) were assigned to this category in 1996. The majority of antepartum deaths (72%) were in the < 2,500 grams weight group, with 41% at a birth weight of <1,000 grams. Abruptio was a factor in 26% (29) deaths before the start of labour. Deaths before term accounted for 69% of these deaths.

Group 2 - Lethal or potentially lethal malformation

Lethal anomalies accounted for 22% (compared to 24% in 1995) of deaths in 1996. Of these babies two were classified under secondary malformations due to hypoplastic lungs and deformities associated with oligohydramnios.

Group 3 - Deaths associated with prematurity

Prematurity was a factor in 30% of deaths compared to 24% in 1995. Of deaths classified due to prematurity, 66% were neonatal deaths and 34% were intrapartum deaths. Of the neonatal deaths, 96% weighed less than 1,000 grams and 100% of intrapartum deaths weighed less than 1,000 grams.

Group 4 - Intrapartum deaths, neonatal deaths < 4 hours of age, neonatal deaths >1,000 grams >4 hours of age with evidence of cerebral birth trauma/asphyxia.

A greater majority of deaths, six % were in this category in 1996 compared with three % in 1995. Massive hemorrhage/abruptio was a factor in eight of these deaths.

Group 5 - Defined specific condition

Of all deaths, 14% had a defined specific condition, as listed in the table. Of these 60% were stillbirths and 40% were neonatal deaths. Sixty-two percent of babies in this category weighed 2,500 grams or greater.

Maternal Mortality

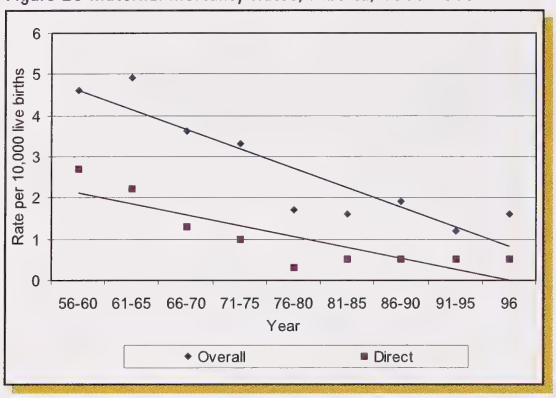
In Alberta, the Committee on Reproductive Care reviews all reported maternal deaths that occur during pregnancy and up to 90 days post-delivery. These deaths are classified according to the Council on Medical Service, American Medical Association, Committee on Maternal and Child Care, A Guide for Maternal Death Studies (1964). Nationally, the Canadian Perinatal Surveillance System (CPSS) subcommittee on maternal mortality proposed a study of the cause of death for all women who died within a year of a live birth or stillbirth. One of the goals of this study is to determine the extent of under reporting of maternal mortality in Canada during five target years (1988 to 1992). For more information on this study contact: [Bureau of Reproductive and Child Health Laboratory, Centre of Disease Control Health Canada, PL 0601E2, Tunney's Pasture, Ottawa, Ontario K1A 0L2.]

In Alberta, Medical Records Departments in all hospitals report maternal death cases to the Committee on Reproductive Care for review. Maternal deaths include direct and indirect obstetric deaths. Direct obstetric death refers to maternal death resulting from complications of pregnancy, childbirth or puerperium including intervention, omission, incorrect treatment, or from a chain of events resulting from any of the above. Indirect obstetric deaths include maternal deaths resulting from previous existing diseases or diseases that developed during pregnancy, childbirth or the puerperium which were not due to direct obstetric cause. Both direct and indirect maternal mortality rates have significantly declined over time, and the average direct maternal death rate since 1981 has been 0.5 per 10,000 live births.

Table 2 Wigglesworth Classification, Alberta, 1998

WIGGLESWORTH CLASSIFICATION[1]	
GROUP CLASSIFICATION	**# OF BABIES**
Group 1 - Deaths before start of labour	111
<37 wks.	77
>or=37 wks.	34
<1000 gms.	46
>or=1000 gms.	65
<2500 gms.	80
>or=2500 gms.	31
Subgroup 1.1 - Abruptio	29
Group 2 - Lethal or potentially lethal malformation	89
Stillbirths	46
Neonatal Deaths	43
Subgroup 2.1 - Secondary malformation	2
Group 3 - Deaths associated with prematurity	119
Neonatal Deaths <37 wks.	78
<1000 gms:	
Stillbirths (Intrapartum)	41
END	68
LND	7
Subgroup 3.1 - Extreme immaturity	113
Group 4 - Intrapartum Deaths, NND <4 hrs. of age, NND >1000 gms.>4 hrs. of age with evidence of cerebral birth trauma/asphyxia	25
Intrapartum Deaths	7
NND <4 hrs. of age	5
NND >1000 >4 hrs. of age - cerebral birth trauma or asphyxia	13
Subgroup 4.1 - Massive antepartum hemorrhage/abruptio	8
Group 5 - Neonatal 37+ wks. gestation, stillbirth/NND with defined specific conditions	55
AP	33
IP	3
NND	19
<1000 gms.	12
>or=1000 gms.	42
<2500 gms.	20
>or=2500 gms.	34

Figure 28 Maternal Mortality Rates, Alberta, 1956-1996



In 1996, there were six cases of reported maternal deaths, compared to three cases in 1995. Two of these cases were classified as direct. Both of these deaths were due to pulmonary amniotic fluid embolism, one occurring intrapartum and the other postpartum. Two maternal deaths were classified as indirect, one due to pulmonary embolus following deep vein thrombosis and the other to rupture of a splenic artery aneurysm. The two unrelated deaths were due to cancer.

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Appendix I:

Perinatal And Neonatal Mortality Review 1996

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The Committee on Reproductive Care reviews all cases of perinatal and neonatal death identified to be "possibly preventable" by either hospital or regional perinatal mortality committees or by the Office Consultant.

Intrapartum and Neonatal Mortality Review
The Committee on Reproductive Care includes in their review of "possibly preventable" cases all intrapartum (during labour) and neonatal deaths (less than 28 days of age) of babies 2,500 grams or greater. Babies with lethal congenital anomalies are excluded. A case is considered "possibly preventable" when another course of action in the management of the mother or infant might have resulted in a better outcome. It is not implied that the death would have been avoided, but is an indication that the risk of death could have been reduced.

In 1996, there were 32 deaths (six intrapartum and 26 neonatal deaths) of babies 2,500 grams or greater, excluding antepartum deaths and those with congenital anomalies. This was 9 more deaths than reported in 1995 for this group of babies.

Not preventable
Nineteen of the 32 deaths were classified as not preventable. Factors associated with cause of death included abruptio placenta, uterine rupture with VBAC, appendicitis, vasa previa , infection, sudden infant death (SIDS) and one unknown cause.

Possibly preventable
Fourteen of the 32 deaths were considered to be possibly preventable in 1996 compared to 6 in 1995. Factors associated with these cases included the failure to recognize or a delay in responding to fetal heart rate abnormalities; communication issues; management of the obese pregnant patient; access to timely Cesarean Section and an accidental death at home of a newborn by overlaying of an older sibling.

The following factors continued to reoccur in the review of possibly preventable cases. In 1996 these included:

1) the failure to recognize or to act on abnormal fetal heart rate patterns with non -stress tests and during labour;
2) the failure to recognize and assess evidence of poor fetal growth;
3) the failure to act on reduced fetal movement;
4) the failure to communicate abnormal results to the appropriate caregiver and 5) difficulties in management of the obese patient.

Fetal Heart Monitoring and Communication
The most frequent avoidable factors identified in case reviews are those involving fetal heart monitoring. These factors included:

1) Recognition and evaluation of non-reactive antepartum non-stress tests
2) Recognition of significant intrapartum abnormal fetal heart tracings
3) Communication about recognized abnormal fetal heart rate tracings
4) Appropriate management of the patient with evidence of non-reassuring fetal heart rate tracings.

Expertise in interpretation of fetal heart monitoring must be maintained and supported by clinical skill to deal with abnormal tracings. The Perinatal Outreach Programs are willing to assist obstetrical staff with continuing education in this very critical area. A useful tool for learning the skills of fetal heart monitoring and for ongoing assessment and update of these skills is the "Tracer" program. Information on this program can be obtained from VMI Technologies, 412 - 126 York Street, Ottawa, Ontario K1N 5T5, PH (613) 241-4040, 1-888-324-6822, Fax (613)241-4044 or Internet http://www.echovacs.com

Fetal Growth Restriction
Failure to recognize and manage intrauterine growth restriction continues to be a factor in many perinatal deaths. Despite evidence of discrepancy between the gestational age and the symphysial fundal height appropriate action has not been taken. The discrepancy may have persisted for 2 or 3 more visits in the cases reviewed. By this time a fetal death has occurred.

All symphysial fundal height measurements should be plotted on the prenatal record.
Immediate action should be taken when there is clinical evidence that the fetus is not growing well. This should include an obstetrical ultrasound, which is then compared to the ultrasound done at 18 to 20 weeks. If the diagnosis of intrauterine growth restriction is confirmed one will need to assess the condition and subsequent growth of the fetus much more frequently and be prepared to intervene early. Consideration for follow-up should include non-stress tests (NSTs), biophysical profiles and timely and appropriate consultations. If there are signs of fetal distress the baby with intrauterine growth restriction should be delivered even if premature. Delivery of the mature baby who is not growing should be considered even when tests for fetal well being are normal. Leaving a fetus in utero whom is growth restricted due to placental failure does not result in an increase in fetal growth and most often will lead to fetal demise.

Failure to act on reduced fetal movement

The fetal movement count (kick count) is a simple, inexpensive method of assessing fetal well being. It is recommended that the pregnant woman be taught to do fetal movement counts and to alert the physician of a reduction in fetal movement. Physicians must take immediate steps to evaluate the fetus by arranging a non-stress test that day. Abnormal results must be communicated to the physician immediately. A non-reactive NST must be followed by further fetal assessment, which most often will be a biophysical profile.

Communication

Care must be taken to ensure that any critical results are communicated at once to the appropriate caregiver, for example, a non-reactive NST and/or an abnormal biophysical profile. Each laboratory or diagnostic imaging facility should have a protocol in place to ensure that critical results are immediately communicated to the ordering physician. This physician, in turn, must act on the results appropriately. It is vital to follow up on results of referrals or investigations to ensure that the patient has followed through with appointments.

Management of the Obese Patient

The obese pregnant patient is at increased risk for both perinatal and maternal mortality. These risks include hypertension, pre-eclampsia, diabetes (insulin dependent and gestational), labour abnormalities and cesarean delivery with associated morbidity. The neonate is at risk for low Apgar scores, intrauterine growth restriction, pre-term delivery, low birth weight, macrosomia, and a requirement for intensive care.

Pre-pregnancy consultation is of great value, especially with regard to diabetes and hypertension, which need to be well controlled. During pregnancy, the obese patient must be screened more frequently for gestational diabetes beginning in the first trimester. Evaluation of fetal growth and estimation of fetal weight using ultrasound is imperative, as it may be the only means of evaluating uterine and fetal growth because of the difficulty in doing physical examinations on the obese. Therefore it is recommended that obese patients have a dating ultrasound in the first trimester followed by ultrasonic growth evaluations every 3 to 4 weeks beginning in the second trimester. Consider consultation with anesthesia before labour or as soon as admitted in labour. If there are no contraindications, consider early placement of an epidural catheter for anesthesia, as the risk of general anesthesia is so much greater in the obese pregnant woman.

If you have any questions or comments regarding these issues please write to Dr. Len Evenson, Office Consultant, Committee on Reproductive Care at Alberta Medical Association, 12230 106 Ave. NW, Edmonton, AB T5N 3Z1 or email Grace Guyon, Co-ordinator, Reproductive Care at gg@amda.ab.ca.

Morbidity Report: Morbidity Outcome Of Babies < 1250 Grams Bth Weight In Northern And Central Alberta

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Since 1974, we have maintained early childhood morbidity outcome statistics for babies born at <1250 grams birth weight and receiving tertiary-level neonatal intensive care (NIC) in Edmonton. Over this period there has been no real change in the percentage of live born babies within this weight category relative to the total number of live births. Due to a fall off in total live births there has been a shift in the total number of such babies cared for in Edmonton from a high of about 160 per year in the mid-1980s to about 120 per year at this time. In the mid-1970s the in-hospital mortality for these babies was about 60%; presently it is about 25%.

The focus of the outcome morbidity measures we provide is the neurodevelopment of the children. At or after 18 months adjusted age, neuro-developmental disabilities have been consistently categorized as one or more of the following:

1. cerebral palsy of all types and severity;
2. delay in mental development;
3. visual loss (vision impairment or legal blindness);
4. sensori-neural hearing loss;
5. epilepsy (post or present seizures requiring current antiepileptics).

The measure of mental delay requires special mention. The levels we record as mental delays are defined as greater than three standard deviations (SD) below the mean on standardized tests, compared with normative data considering the children's ages as corrected for prematurity. Many other follow-up programs use greater than two SD below the mean, hence our grading gives more children the benefit of the doubt. Also, adjusted age is used. Although this is conventional and it makes sense to give allowance for prematurity, we find that children functioning at just their adjusted age have significant future difficulties. Mental development at chronological age or between adjusted age and chronological age holds a better prognostic significance. The final point is that children free from physical and sensory disabilities that perform below three SD rarely gain sufficient skills to place them in the average range later, and usually remain significantly delayed in mental abilities.

Over the years we have maintained a high percentage (>90%) follow-up of these babies into the early childhood years. Table 1 gives the percentages of disabilities over the years. While a drop in proportion of disabled children was noted from the 1970s to the 80s, the proportion of disabled survivors is now similar to that of the 1970s. The absolute number of disabled children has risen and disabilities, particularly cerebral palsy, are more complex. Notably, there has been a significant decrease in the proportion of vision loss (1975 to 1978, 13 (eight %) of 163 versus 1993 to 1996, 10 (three %) of 299, $p < 0.05$). However, we have seen an increase in the proportion of cognitive delay among survivors (1975 to 1978, 11 (seven %) of 163 versus 1993 to 1996, 50 (17%) of 299, $p < 0.01$). This shift in mental developmental skills is disconcerting. Remember that of the total population, only 0.13% have mental skills within this low category.

Table 1 Comparison of Early Childhood Neuro-developmental Disabilities Among Northern and Central Alberta Cohorts of NICU Survivors of < 1,250 Grams at Birth

	Year			
	1975-1978	1984-1987	1988-1991	1993-1996
Total Assessed	163	309	377	299
/% disabled	36 (22%)	44 (14%)	66 (18%)	68 (23%)
one or more of:				
cerebral palsy	22 (13%)	24 (8%)	48 (13%)	32 (11%)
cognitive delay*	11 (7%)	21 (7%)	33 (9%)	50 (17%)
vision loss**	13 (8%)	14 (5%)	21 (6%)	10 (3%)
hearing loss	2 (1%)	7 (2%)	5 (1%)	11 (4%)
epilepsy	5 (3%)	0 (0%)	2 (0.5%)	2 (0.7%)

Note: *documented as >3 SD below normative data using different standardized measures in each period
**includes visual impairment and legal blindness

Several other centres involved with long-term follow-up have voiced concern over an increased proportion of survivors with disabilities as well as the increase in absolute numbers of disabled children. Our concern is two-fold:

1. Is their a system change in newborn care that has resulted in more babies with mental delay or is this simply a factor of improved survival and a continuum of insult giving greater morbidity?

2. What can we do to optimize the post-neonatal environment of the babies to improve outcome? Enhanced long-term surveillance and intervention appears to be one consideration.

Survivors without neuro-developmental disability can be grouped as those with cognitive delay, those without cognitive delay, but academic achievement delay, and those with no school difficulty. The most common of these is academic achievement delay with many finding mathematics the most difficult subject. We are only beginning to understand the learning patterns of these children. Thus far, no specific early intervention programs have been established. Due to financial constraints, longterm follow-up mainly occurs as part of research.

Dr. Maureen Hack of Cleveland has spoken out strongly about her concerns for the future of these children and their families. In particular, she recommends that comprehensive follow-up of low birth weight children be mandated and continue until school age, and that this should be associated with early intervention services. To this, I add the importance of focusing intervention/early education on the particular needs of these special children.

Is Chronic Lung Disease in Pre-term Infants Changing In Frequency Or Severity?

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During the past few years, a number of changes in perinatal and neonatal care have been introduced with positive impact on the survival of very low birth weight infants. The province of Alberta compares very favorably with other sites in Canada and the USA in terms of survival of very low birth weight infants, particularly those at extremely low birth weights. But, as we are frequently reminded, this improvement in survival may not come without cost in terms of morbidity, disabilities, economics and psychosocial burdens to the affected families. Serious types of morbidity that are particularly common. are bronchopulmonary dysplasia (BPD) and chronic lung disease in infants (CLD). For the purposes of this discussion, bronchopulmonary dysplasia is defined as oxygen dependence beyond 28 days of age. When there is persistent lung disease after the infants are discharged home from neonatal intensive care unit (NICU), manifest by chronic oxygen dependence or recurrent lower respiratory tract illnesses requiring either re-hospitalization or ongoing treatment with respiratory medications, we use the term CLD.

A number of interventions in perinatal/neonatal care have specifically targeted CLD, including increased use of antenatal steroids in women presenting in pre-term labour, use of prophylactic or rescue surfactant, and development of new modes of assisted ventilation. Although these and other developments in neonatal/perinatal care have in some instances led to marked improvement in survival, especially in the lowest birth weight infants, there is considerable skepticism regarding whether the lifesaving therapies have had a positive impact on the frequency or severity of BPD and of post-discharge CLD.

To explore this impact, we have reviewed data collected between 1977 and 1994 as part of the Perinatal Follow-up Program for Southern Alberta, located at the Alberta Children's Hospital, Calgary. A cut-off date of 1994 was used in order to ensure that three year follow-up was available on as many infants as possible. It is not possible to pinpoint specific cause/effect relationships using this approach, but several different questions can be asked. For example, are more babies being discharged home in continuous oxygen therapy? Are they remaining oxygen-dependent for a shorter period of time? We will attempt to answer these two questions.

A. Discharge home in continuous oxygen therapy and CLD

Discharge practices may vary in different neonatal units in Southern Alberta for a number of reasons. At the Calgary Regional Health Authority, Foothills Hospital site, the discharge criteria for babies who are at 36 weeks or less are outlined in Table 1. These have not changed substantially over the years, but the common practices now are for babies to be discharged home from centres other than FH (i.e. from the hospital of birth or from the hospital nearest their home), and for babies to be discharged at a lower birth weight than they were in the past even though the objective discharge criteria have not changed. Generally, infants approaching discharge are considered oxygen dependent if they

require supplemental oxygen to keep their oxygen saturation greater than 88% while awake, feeding and sleeping. These infants may be discharged home in continuous oxygen if they have suitable family and health care support and the family has received training provided by the NICUs.

Table 1 Discharge Criteria For Babies At 36 Weeks Gestation Or Less

No apnea or bradycardia for five days or more
Bottle or breastfeeding all feeds for at least five days
Able to maintain body temperature in an open cot
Consistent weight gain for over five days

No apnea or bradycardia for five days or more
Bottle or breastfeeding all feeds for at least five days
Able to maintain body temperature in an open cot
Consistent weight gain for over five days

Between 1977 and 1994, 1,183 infants who were born in Southern Alberta with birth weights of 1,250 grams or less were discharged alive. Of the infants discharged alive, 611 (51.7%) developed BPD and 244 (39.9%) were discharged home in continuous oxygen therapy. The frequency is summarized over the years 1977 to 1994, in Table 2. We do not see major changes in the percentage of infants with BPD in the recent years, but the absolute numbers of infants and the percentages discharged home in oxygen,reveal a modest increase in the most recent time periods.

Table 2 BPD, CLD, And Home Oxygen Therapy In Infants (< = 1,250 grams) In Southern Alberta, 1977-1994

Year	Total Infants	Survivors	Frequency of BPD*	Frequency of home oxygen*	Frequency of CLD (12 month)*	Frequency Of CLD (36 month)*
1977-79	193	113 (58.5)	33 (29.2)	5 (4.4)	8 (7.1)	3 (2.7)
1980-82	305	171 (56.1)	70 (40.9)	10 (5.8)	9 (5.3)	7 (4.1)
1983-85	303	196 (64.7)	101 (51.5)	45 (23.0)	19 (9.7)	5 (2.6)
1986-88	298	224 (75.2)	130 (58.0)	62 (27.7)	18 (8.0)	6 (2.7)
1989-91	347	258 (74.4)	151 (58.5)	55 (21.3)	11 (4.3)	9 (3.5)
1992-94	288	221 (76.7)	126 (57.0)	67 (30.3)	27 (12.2)	14 (6.3)
Overall	1,734	1183 (68.2)	611 (51.6)	244 (20.6)	92 (7.8)	44 (3.7)

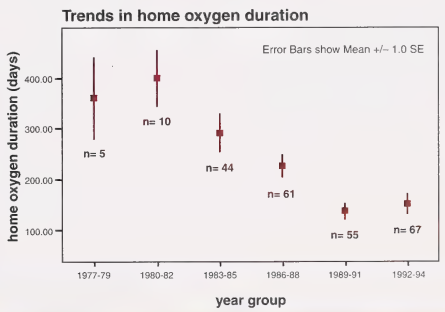
Note: *Annual frequencies are defined as the percentage of surviving infants born in those years that were affected

Overall, 84 (13.7%) of the 611 infants who had BPD were found to have CLD at 12 months of age and 36 (5.9%) had CLD at 36 months. In comparison, in data not shown, only eight (1.3%) infants without BPD in this population had CLD at 12 months and eight (1.3%) at 36 months.

B Duration of continuous home oxygen therapy

As was anticipated, although the frequency of discharge home in oxygen increased, the total duration of oxygen therapy decreased as outlined in Figure 1. This could relate to healthier infants being discharged home in oxygen, changes in the clinical features of CLD due to perinatal/neonatal interventions; or, differences in medical follow-up practices such as respiratory syncytial virus immunization, changes in bronchodilator therapy and antibiotic coverage, and changes in nutritional management of infants with chronic lung disease.

Figure 1



Summary

In summary, although survival rates have improved in very low birth weight infants, the frequency of BPD has not changed significantly in recent years. Since the likelihood of being discharged home in oxygen has increased this could suggest either a change in the nature of BPD or changes in health care practices around the time of discharge. There does not appear to be a major change in the frequency of CLD at 12 months and 36 months of age in infants who have BPD. The duration of home oxygen therapy has decreased, probably reflecting a change in care rather than in severity of BPD or CLD.

Appendix II: Glossary

age: age at the last birth date preceding the event.(Statistics Canada, Births and Deaths, 1995)

age-specific fertility rate: number of live births per 1,000 women in a specific age group. (Statistics Canada, Births and Deaths, 1995)

abortion: termination of pregnancy before the fetus is viable.

spontaneous: abortion occurring naturally.
induced: abortion brought on intentionally by medication and instrumentation.Encyclopedia and Dictionary of Medicine, Nursing, and Allied Health)

antepartum (AP): before the onset of labour.

airth or live birth: the complete expulsion or extraction from the mother, irrespective of the duration of the pregnancy, of a fetus in which, after expulsion or extraction, there is breathing, beating of the heart, pulsation of the umbilical cord or unmistakable movement of voluntary muscle, whether or not the umbilical cord has been cut or the placenta is attached. (Alberta Vital Statistics Act, RSA 1980 cV-4 s1)

birth weight: first weight of the fetus or newborn obtained after birth, expressed in grams. (Statistics Canada, Births and Deaths, 1995)

crude birth rate (CBR): number of live births per 1,000 population. (Statistics Canada, Births and Deaths, 1995)

direct obstetric death: maternal death resulting from complications of pregnancy, childbirth or puerperium including intervention, omission, incorrect treatment or from a chain of events resulting from any of the above.

extreme low birth weight (ELBW): birth weight is less than 1,000 grams. (Statistics Canada, Births and Deaths, 1995)

fiscal year: from April 1 this year to March 31 the next year.

frequency: number of events or cases in a category.

general fertility rate (GFR): total number of live births per 1,000 women aged 15 to 49. (Statistics Canada, Births and Deaths, 1995)

gestation period: interval, in complete weeks, between the first day of the last menstrual period of the mother to the date of removal of fetus from the mother. For cases with unknown date of last normal menses, gestation period is based on clinical estimation. Pre-term refers to a period of gestation less than 37 full weeks; term, 37 to 42 complete weeks; and post-term, more than 42 weeks. (Statistics Canada: Therapeutic Abortions, 1994; Births and Deaths, 1995)

indirect obstetric deaths: Maternal Death resulting from previous existing disease or diseases that developed during pregnancy, childbirth or the puerperium which was not due to direct obstetric cause.

infant mortality: deaths to children under one year of age. (Statistics Canada: Births and Deaths, 1995)

Intrapartum (IP): During labour.

live birth order: the number of children born alive to the mother, including the present child. (The Methods and Materials of Demography, Shryock, Siegel and Stockwell, 1976)

low birth weight (LBW): birth weight is less than 2,500 grams. (Statistics Canada, Births and Deaths, 1995)

maternal death: the death of a woman known to be pregnant or within 90 days of delivery or termination of the pregnancy, irrespective of the duration of or site of the pregnancy.

mean: the arithmetic average of a set of observations, the sum of scores divided by the number of scores.

median: the middle value in a set of values that have been arranged in order from highest to lowest.

multiple birth: birth in which more than one infant is born, including live births and stillbirths. (Statistics Canada, Births and Deaths, 1995)

multiple pregnancy: a pregnancy with more than one fetus.

neonatal deaths (NND): death of a live born infant occurring less than 28 full days after birth, including early neonatal deaths: before seventh full day or less than 168 hours; and late neonatal deaths: between the seventh and 28th full day of life.

perinatal death (PND): Includes stillbirths and early neonatal deaths.

rate: the number of events occurring in a population divided by the size of the population.

stillbirth: the complete expulsion or the extraction from the mother after at least 20 weeks pregnancy, or after attaining a weight of 500 grams or more, of a fetus in which, after the expulsion or extraction, there is no breathing, beating of the heart, pulsation of the umbilical cord or unmistakable movement of voluntary muscle. (Alberta Vital Statistics Act, RSA 1980 cV-4 s1)

total births: all live births and stillbirths.

total fertility rate (TFR): average number of children a woman can expect to have in her lifetime, based on the fertility rates of a given year. It is equal to the sum of the age-specific fertility rates (age 15 to 49). (Statistics Canada, Births and Deaths, 1995)

very low birth weight (VLBW): birth weight is less than 1,500 grams. (Statistics Canada, Births and Deaths, 1995)

Appendix III:

Definitions Of Level Of Perinatal Care

A primary (Level I) Perinatal Care Unit refers to the obstetrical/neonatal facilities and services provided in one hospital for the benefit of mothers and newborns with no significant identifiable risk. Appropriate resources must be available to provide care for emergencies that cannot anticipated, including maternal and neonatal stabilization and neonatal resuscitation prior to transport. Facilities for caesarean section should be available within, or adjacent to the birthing room.

An intermediate perinatal care unit (Level II) is located in a major acute care hospital. It is composed of those facilities and services described for perinatal care above, plus additional resources for the management of mothers and newborns with selected high risk problems such as:

- premature labour at 32 to 34 or more weeks gestation;
- suspected neonatal epsis;
- other identifiable problems not requiring care in an Intensive Perinatal care unit.

An intensive perinatal care unit (Level III) has the resources of primary and intermediate perinatal care units as well as the resources of management of:

Mother

- premature labour less than 32 weeks gestation, birth weight of 1,750 grams or less
- premature rupture of membranes prior to 32 to 34 weeks gestation
- severe pregnancy induced hypertension
- severe antepartum bleeding, continuing or repeated prior to 32 weeks gestation
- severe Rhesus immunization
- mothers with known serious fetal malformation
- symptomatic maternal heart disease
- any material life threatening disease

Newborn

- newborns less than 32 weeks
- newborns with severe respiratory distress
- neonatal sepsis
- severe asphyxia
- symptomatic congenital heart disease
- major surgically amenable malformation of the newborn

- major metabolic disorders
- newborns requiring total parenteral nutrition
- newborns requiring prolonged (greater than 24 hours) assisted ventilation

Modified Level III perinatal care unit: Some components of Level III activity will be required in larger non-teaching hospitals where isolation, geographic, or population density (more than 4,000 live births per year) require a greater degree of sophistication of resources than is usually found in Level II units.

Source: Alberta Health Research and Planning Branch Health Strategy and Evaluation Division. (1993). Perinatal services in Alberta. Review of Reproductive Health Issues, Program and Services.

Appendix IV:

INTERNATIONAL CLASSIFICATION OF DISEASE- 9TH REVISION-CLINICAL MODIFICATION (ICD-9-CM) CODES

(Codes used in data extraction)

Hospital Delivery		
Diagnostic Codes	640-648:	Complications mainly related to pregnancy
Fifth digit:	1	delivered, with or without mention of antepartum condition
	2	delivered, with mention of postpartum complication
Diagnostic Code	650:	Delivery in a completely normal case
Diagnostic Codes	651-659:	Other indications for care in pregnancy, labour and delivery
Fifth digit:	1	delivered, with or without mention of antepartum condition
	2	delivered, with mention of postpartum complication
V Code	V27:	Outcome of delivery
Induction		
Procedure Codes	73.4:	Medical induction of labour
	73.01:	Induction of labour by artificial rupture of membranes
	73.1:	Other surgical induction of labour
Operative Delivery		
Procedure Codes	74:	Cesarean section and removal of fetus
	72.0:	Low forceps operation
	72.1:	Low forceps operation with episiotomy
	72.2:	Mid forceps operation
	72.21:	Mid forceps with episiotomy
	72.29:	Other mid forceps operation
	72.3:	High forceps operation
	72.31:	High forceps operation with episiotomy
	72.39:	Other high forceps operation
	72.7:	Vacuum extraction
	72.71:	Vacuum extraction with episiotomy
	73.6:	Episiotomy
Diagnostic Codes	664.0:	First-degree perineal laceration
	664.1:	Second-degree perineal laceration
	664.2:	Third-degree perineal laceration
	664.3:	Fourth-degree perineal laceration
	664.4:	Unspecified perineal laceration
Spontaneous Abortion		
Diagnostic Code	634:	Spontaneous abortions

Appendix V:

List Of Tables

Table A1 Select Indicators of Pregnancy Outcomes, Alberta, 1985/86 - 1996/97

Indicators	Fiscal Year 85/86	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96/97
Live Births	43,330	43,087	41,508	41,984	43,281	42,333	42,436	40,990	39,888	39,399	38,068	37,209
Crude Birth Rate (per 1,000 population)	17.8	17.6	16.8	16.7	16.9	16.2	16.0	15.3	14.7	14.5	13.9	13.4
General Fertility Rate (per 1,000 women aged 15-49)	63.9	63.3	60.7	60.8	61.5	59.2	58.6	56.1	54.1	53.3	51.1	49.3
Total Fertility Rate (per 1,000 women)	1,837	1,847	1,806	1,837	1,889	1,857	1,875	1,834	1,807	1,820	1,780	1,737
Low Birth Weight Rate (per 100 live births)	5.4	5.5	5.5	5.9	5.8	6.0	5.8	5.8	5.7	5.6	6.0	6.2
Pre-term Birth Rate (per 100 live births)	6.3	6.4	6.5	6.9	6.7	6.9	6.7	6.8	6.7	6.7	7.0	7.5
Stillbirths	237	284	255	301	248	315	295	267	258	287	249	230
Stillbirth Rate (per 100,000 women aged 15-49)	35.0	41.7	37.3	43.6	35.2	44.1	40.7	36.6	35.0	38.8	33.4	30.5
Stillbirth Rate (per 1,000 total births)	5.4	6.5	6.1	7.1	5.7	7.4	6.9	6.5	6.4	7.2	6.5	6.1
Spontaneous Abortions	4,549	4,610	4,621	4,906	4,864	4,988	5,035	5,354	5,120	5,122	4,940	4,706
Spontaneous Abortion Rates (per 1000 women aged 15-49)	5.9	6.0	6.0	6.3	6.1	6.2	6.1	6.5	6.1	6.1	5.8	5.5
Induced Abortions	6,356	6,248	5,206	6,588	6,559	6,319	7,441	8,561	9,074	9,075	8,694	9,613
Induced Abortion Rate (per 1,000 women aged 15-49)	9.4	9.2	7.6	9.6	9.4	8.9	10.3	11.8	12.4	12.3	11.7	12.7
Estimated Pregnancies	54,472	54,229	51,590	53,779	54,952	53,955	55,207	55,172	54,340	53,883	51,951	51,758
Estimated Pregnancy Rate (per 1,000 women aged 15-49)	80.4	79.7	75.5	77.8	78.1	75.5	76.2	75.6	73.7	72.8	69.7	68.6
Mean Maternal Age at delivery	26.5	26.7	26.9	27.1	27.2	27.3	27.4	27.5	27.6	27.8	27.8	28.0
Neonatal Mortality Rate (per 1,000 Livebirths)	5.0	4.3	4.4	4.2	5.0	3.4	4.7	4.0	4.7	4.9	4.0	3.6
Post-neonatal Mortality Rate (per 1,000 Livebirths)	3.9	3.2	3.8	3.2	2.9	3.2	2.5	2.6	2.7	2.1	2.1	1.3
Infant Mortality Rate (per 1,000 Livebirths)	8.9	7.5	8.2	7.4	7.9	6.7	7.2	6.6	7.3	6.9	6.2	4.9
Total Induction Rate (per 100 hospital deliveries)	13.3	14.4	12.0	12.1	16.7	16.3	16.2	16.3	19.6	20.4	19.9	21.7
Cesarean Section Rate (per 100 hospital deliveries)	16.6	16.6	17.3	16.8	16.4	15.9	16.2	16.0	15.6	15.8	15.9	16.3

Sources: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.
Clinics Files, Alberta Health.
Physician Claims Files, Alberta Health.
Hospital Morbidity Files, Alberta Health.

Notes:
1. Estimated pregnancies include livebirths, stillbirths, spontaneous abortions and induced abortions.
2. Mortality rates are for calendar years from 1986 to 1997.

Table A2 Live Births, Stillbirths and Induced Abortions by Alberta Residence, 1985/86-1996/97

Fiscal Year	Live Birth		Stillbirth		Induced Abortions	
	Alberta Residents	Non-Alberta Residents	Alberta Residents	Non-Alberta Residents	Alberta Residents	Non-Alberta Residents
Cases						
85/86	43,330	365	237	8	6,356	45
86/87	43,087	381	284	4	6,248	61
87/88	41,508	392	255	10	5,206	35
88/89	41,984	404	301	11	6,588	91
89/90	43,281	487	248	7	6,559	74
90/91	42,333	475	315	6	6,319	44
91/92	42,436	546	295	11	7,441	108
92/93	40,990	435	267	2	8,561	225
93/94	39,888	474	258	10	9,074	248
94/95	39,399	491	287	2	9,075	198
95/96	38,068	453	249	0	8,694	197
96/97	37,209	427	230	7	9,613	210
Percent						
85/86	99.2	0.8	96.7	3.3	99.3	0.7
86/87	99.1	0.9	98.6	1.4	99.0	1.0
87/88	99.1	0.9	96.2	3.8	99.3	0.7
88/89	99.0	1.0	96.5	3.5	98.6	1.4
89/90	98.9	1.1	97.3	2.7	98.9	1.1
90/91	98.9	1.1	98.1	1.9	99.3	0.7
91/92	98.7	1.3	96.4	3.6	98.6	1.4
92/93	98.9	1.1	99.3	0.7	97.4	2.6
93/94	98.8	1.2	96.3	3.7	97.3	2.7
94/95	98.8	1.2	99.3	0.7	97.9	2.1
95/96	98.8	1.2	100.0	0.0	97.8	2.2
96/97	98.9	1.1	97.0	3.0	97.9	2.1

Sources: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.
Clinics Files, Alberta Health.

Notes: 1. Non-Alberta residents include out of province and out of country cases.
2. Cases with unknown addresses are treated as Alberta residents

Table A3 Estimated Pregnancy (live births, stillbirth and induced abortions) Rates by Age Group, Alberta, 1985/86 - 1996/97

		Age Group										
Fiscal Year	**Total**	< 15	15-17	18-19	15-19	20-24	25-29	30-34	35-39	40-44	> 44	Not Stated
Number of estimated pregnancies												
85/86	**49,923**	94	1,665	2,969	4,634	14,316	18,230	9,796	2,511	326	16	0
86/87	**49,619**	69	1,687	2,988	4,675	13,304	18,161	10,400	2,676	318	16	0
87/88	**46,969**	72	1,465	2,806	4,271	11,911	17,188	10,356	2,806	352	13	0
88/89	**48,873**	74	1,601	3,116	4,717	11,840	17,629	11,032	3,090	473	18	0
89/90	**50,088**	79	1,552	3,128	4,680	11,846	17,638	11,954	3,443	425	23	0
90/91	**48,967**	85	1,575	3,101	4,676	11,396	16,664	11,834	3,792	504	16	0
91/92	**50,172**	105	1,838	3,205	5,043	11,664	16,426	12,289	4,086	535	24	0
92/93	**49,818**	121	1,941	3,149	5,090	11,594	15,676	12,543	4,210	563	20	1
93/94	**49,220**	97	2,004	3,185	5,189	11,512	15,036	12,310	4,453	602	21	0
94/95	**48,761**	102	1,822	3,273	5,095	11,090	14,663	12,500	4,611	683	17	0
95/96	**47,011**	87	1,792	3,092	4,884	10,608	13,985	11,976	4,771	677	22	1
96/97	**47,052**	80	1,791	3,085	4,876	10,619	13,775	11,774	5,024	872	32	0
Estimated pregnancy rate (per 1,000 women in each age group)												
85/86	**73.7**	1.1	30.2	77.6	49.6	120.7	138.4	85.6	26.5	4.7	0.3	
86/87	**72.9**	0.8	30.9	78.8	50.6	117.9	139.6	88.3	28.0	4.3	0.3	
87/88	**68.7**	0.8	27.5	73.3	46.7	111.3	133.9	86.1	28.9	4.4	0.2	
88/89	**70.7**	0.8	30.7	80.7	52.0	114.9	138.7	89.6	30.5	5.7	0.3	
89/90	**71.2**	0.9	29.6	82.6	51.9	117.0	140.2	94.6	32.3	4.8	0.4	
90/91	**68.5**	0.9	29.5	84.6	52.0	113.1	136.7	91.9	33.8	5.4	0.2	
91/92	**69.3**	1.1	33.8	88.6	55.7	116.9	139.3	94.3	34.9	5.6	0.3	
92/93	**68.2**	1.2	35.4	87.4	56.1	118.4	139.1	95.7	34.7	5.8	0.3	
93/94	**66.7**	1.0	36.2	86.0	56.2	119.1	138.9	94.3	35.7	5.9	0.3	
94/95	**65.9**	1.0	32.4	87.9	54.5	117.1	141.6	98.0	36.4	6.4	0.2	
95/96	**63.1**	0.8	31.2	82.8	51.5	113.5	136.8	97.7	37.1	6.1	0.2	
96/97	**62.3**	0.8	30.1	81.3	50.0	112.0	135.1	99.0	38.5	7.5	0.3	

Sources: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.
Clinics Files, Alberta Health.
Physician Claims Files, Alberta Health
Alberta Health Care Insurance Plan Registration File, Alberta Health.

Notes:
1. Estimated pregnancies include live births, stillbirths and induced abortions.
2. Age-specific rate refers to number of estimated pregnancies per 1,000 women in a specific age group.
3. The age-specific rates for age groups <15 and >44 are calculated based on female populations in 10-14 and 44-49 age groups respectively.
4. Populations are estimated at March 31, as viewed at September 30 of each year.
5. Regional Health Authority boundaries are current as of April, 1998
6. Pregnancies are for Alberta residents only.

Table A4 Estimated Pregnancy (including spontaneous abortions) Rates by Age Group, Alberta, 1985/86 - 1996/97

		Age Group										
Fiscal Year	**Total**	< 15	15-17	18-19	15-19	20-24	25-29	30-34	35-39	40-44	> 44	Not Stated
Number of estimated pregnancies												
85/86	**54,472**	108	1,811	3,199	5,010	15,545	19,766	10,739	2,870	408	26	0
86/87	**54,229**	81	1,834	3,251	5,085	14,419	19,799	11,335	3,081	396	33	0
87/88	**51,590**	79	1,615	3,049	4,664	13,015	18,703	11,412	3,227	460	30	0
88/89	**53,779**	97	1,780	3,408	5,188	12,917	19,253	12,159	3,548	587	30	0
89/90	**54,952**	90	1,746	3,428	5,174	12,891	19,175	13,102	3,953	527	40	0
90/91	**53,955**	109	1,772	3,371	5,143	12,482	18,149	13,067	4,323	658	24	0
91/92	**55,207**	122	2,023	3,498	5,521	12,710	17,904	13,563	4,659	685	43	0
92/93	**55,172**	138	2,146	3,480	5,626	12,739	17,116	13,894	4,868	743	47	1
93/94	**54,340**	114	2,237	3,525	5,762	12,571	16,406	13,598	5,052	805	32	0
94/95	**53,883**	119	1,992	3,599	5,591	12,205	16,017	13,709	5,309	900	33	0
95/96	**51,951**	105	1,992	3,374	5,366	11,592	15,334	13,146	5,458	906	43	1
96/97	**51,758**	92	1,973	3,346	5,319	11,544	15,046	12,936	5,670	1,093	58	0
Estimated pregnancy rate (per 1,000 women in each age group)												
85/86	**80.4**	1.2	32.9	83.6	53.7	131.0	150.1	93.9	30.3	5.9	0.5	
86/87	**79.7**	0.9	33.6	85.7	55.0	127.8	152.2	96.2	32.2	5.3	0.6	
87/88	**75.5**	0.9	30.3	79.7	50.9	121.6	145.7	94.9	33.2	5.8	0.5	
88/89	**77.8**	1.1	34.1	88.3	57.2	125.3	151.5	98.8	35.0	7.1	0.5	
89/90	**78.1**	1.0	33.3	90.5	57.3	127.3	152.5	103.7	37.1	6.0	0.6	
90/91	**75.5**	1.2	33.2	91.9	57.2	123.8	148.9	101.4	38.5	7.1	0.4	
91/92	**76.2**	1.3	37.2	96.7	61.0	127.4	151.8	104.1	39.8	7.2	0.6	
92/93	**75.6**	1.4	39.2	96.6	62.0	130.1	151.9	106.0	40.2	7.6	0.6	
93/94	**73.7**	1.1	40.4	95.2	62.4	130.1	151.6	104.2	40.5	7.9	0.4	
94/95	**72.8**	1.2	35.4	96.6	59.8	128.9	154.6	107.5	41.9	8.5	0.4	
95/96	**69.7**	1.0	34.6	90.3	56.6	124.0	150.0	107.2	42.5	8.1	0.5	
96/97	**68.6**	0.9	33.1	88.2	54.5	121.8	147.5	108.7	43.5	9.3	0.6	

Sources: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.
Clinics Files, Alberta Health.
Physician Claims Files, Alberta Health
Alberta Health Care Insurance Plan Registration File, Alberta Health.

Notes:
1. Estimated pregnancies include live births, stillbirths, spontaneous abortions and induced abortions.
2. Age-specific rate refers to number of estimated pregnancies per 1,000 women in a specific age group.
3. The age-specific rates for age groups <15 and >44 are calculated based on female populations in 10-14 and 44-49 age groups respectively.
4. Populations are estimated at March 31, as viewed at September 30 of each year.
5. Regional Health Authority boundaries are current as of April, 1998
6. Pregnancies are for Alberta residents only.

Table A5 Mean and Median Maternal Age of Live Birth, Stillbirth and Induced Abortion, Alberta, 1985/86-1996/97

	Total Live Birth	First Live Birth	Stillbirth	Induced Abortion	Spontaneous Abortion
Mean					
85/86	26.5	24.7	26.7	24.1	27.1
86/87	26.7	24.9	26.7	24.2	27.1
87/88	26.9	25.0	26.5	24.3	27.4
88/89	27.1	25.2	26.7	24.4	27.3
89/90	27.2	25.3	27.7	24.7	27.5
90/91	27.3	25.3	27.4	24.9	27.7
91/92	27.4	25.3	27.0	25.0	27.9
92/93	27.5	25.6	27.2	24.8	28.0
93/94	27.6	25.7	27.8	24.8	28.1
94/95	27.8	25.9	28.3	24.9	28.4
95/96	27.8	26.0	28.5	25.0	28.7
96/97	28.0	26.1	28.1	25.1	28.8
Median					
85/86	26	25	27	23	27
86/87	27	25	27	23	27
87/88	27	25	26	23	27
88/89	27	25	27	23	27
89/90	27	25	28	23	27
90/91	27	25	27	24	28
91/92	28	25	27	24	28
92/93	28	26	27	23	28
93/94	28	26	28	23	28
94/95	28	26	29	24	28
95/96	28	26	28	24	28
96/97	28	26	28	24	28

Sources: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.
Clinic Files, Alberta Health.
Physician Claims Files, Alberta Health

Note: Calculations are based on Alberta residents only.

Table A6 Live Births, Crude Birth Rates and General Fertility Rates by Residence RHA, and Total Fertility Rates, Alberta, 1985/86-1996/97

RHA	Fiscal Year											
	85/86	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96/97
Live births												
1	2,444	2,463	2,374	2,367	2,467	2,433	2,369	2,373	2,312	2,330	2,266	2,208
2	1,327	1,283	1,183	1,245	1,272	1,268	1,201	1,166	1,128	1,222	1,213	1,132
3	817	880	829	813	885	886	875	890	857	901	830	859
4	11,954	12,099	11,935	12,189	12,780	12,258	12,281	11,916	11,509	11,483	11,221	11,078
5	718	690	729	638	686	662	705	648	647	653	670	619
6	2,911	3,018	2,804	2,804	2,797	2,827	2,879	2,871	2,726	2,660	2,604	2,553
7	1,459	1,363	1,337	1,312	1,317	1,230	1,189	1,144	1,180	1,162	1,074	1,087
8	1,267	1,255	1,147	1,167	1,187	1,163	1,231	1,188	1,093	1,185	1,193	1,148
9	718	726	667	693	780	752	729	728	694	674	617	591
10	12,613	12,642	12,069	12,425	12,454	12,426	12,409	11,824	11,496	10,880	10,383	9,955
11	1,382	1,319	1,255	1,290	1,369	1,323	1,365	1,297	1,333	1,249	1,197	1,179
12	1,921	1,809	1,789	1,677	1,819	1,681	1,746	1,692	1,657	1,641	1,546	1,496
13	1,550	1,446	1,380	1,346	1,368	1,344	1,323	1,305	1,263	1,330	1,295	1,318
14	410	392	370	351	354	348	349	303	326	336	325	324
15	521	516	494	503	546	520	559	514	562	599	528	529
16	862	746	691	731	701	764	693	653	628	565	563	582
17	454	436	452	433	499	448	533	478	476	529	543	550
Unknown	2	4	3	0	0	0	0	0	1	0	0	1
Province	**43,330**	**43,087**	**41,508**	**41,984**	**43,281**	**42,333**	**42,436**	**40,990**	**39,888**	**39,399**	**38,068**	**37,209**
Crude birth rate (per 1,000 population)												
1	17.9	18.0	17.3	17.1	17.7	17.3	16.8	16.7	16.1	16.2	15.7	15.1
2	16.7	16.2	15.0	15.6	15.8	15.7	14.8	14.3	13.6	14.4	14.2	13.1
3	16.0	16.9	15.7	15.2	15.9	15.4	14.7	14.5	13.5	13.8	12.4	12.5
4	17.3	17.2	16.7	16.6	17.0	15.9	15.7	15.0	14.3	14.1	13.5	12.9
5	15.7	15.2	15.9	13.9	14.8	14.0	14.6	13.2	13.0	12.9	13.0	12.0
6	19.0	19.4	17.9	17.6	17.2	17.1	17.0	16.7	15.6	15.1	14.7	14.2
7	14.4	13.6	13.4	13.2	13.3	12.4	11.9	11.4	11.5	11.3	10.5	10.6
8	17.9	17.7	16.1	16.0	16.0	15.3	15.8	14.9	13.5	14.1	13.9	13.1
9	21.1	21.0	18.9	19.3	21.3	20.1	19.2	19.0	18.0	17.4	16.0	15.3
10	17.6	17.4	16.5	16.7	16.4	16.1	15.8	14.9	14.4	13.8	13.2	12.6
11	19.3	18.4	17.4	17.7	18.3	17.4	17.6	16.4	16.5	15.4	14.8	14.5
12	18.4	17.4	17.1	16.0	17.4	16.0	16.5	15.9	15.5	15.4	14.6	14.1
13	—	—	—	—	17.3	16.7	16.4	16.3	15.6	16.1	15.3	15.3
14	—	—	—	—	17.3	17.1	17.3	15.1	16.2	16.7	16.1	16.1
15	25.3	24.5	23.1	23.1	24.7	23.2	24.5	22.0	23.4	24.3	21.1	20.8
16	21.5	20.1	18.9	19.6	18.7	20.1	18.0	17.1	16.6	15.4	15.4	15.2
17	30.2	28.8	29.6	27.8	31.9	28.3	33.1	29.1	28.4	31.1	30.7	29.8
Province	**17.8**	**17.6**	**16.8**	**16.7**	**16.9**	**16.2**	**16.0**	**15.3**	**14.7**	**14.5**	**13.9**	**13.4**
General fertility rate (per 1,000 women aged 15-49)												
1	71.5	71.9	69.2	68.8	70.9	69.2	66.9	66.6	64.2	64.4	62.3	60.3
2	65.4	63.0	58.4	61.3	62.1	61.3	58.0	56.4	53.1	56.5	55.5	50.9
3	59.8	63.4	58.2	56.8	59.2	57.4	55.2	54.2	50.3	51.1	46.0	45.9
4	58.1	58.4	56.9	57.0	58.3	54.8	54.2	52.1	49.8	49.2	47.3	45.5
5	64.3	62.1	65.3	57.3	60.9	57.5	59.8	53.7	52.7	51.7	52.4	48.3
6	71.0	73.0	67.7	67.0	65.5	65.1	65.0	64.1	60.1	58.1	56.3	54.6
7	59.8	56.6	56.2	55.5	56.1	52.1	49.8	47.4	47.6	46.6	43.0	43.4
8	65.0	64.7	58.7	58.7	58.4	55.6	57.4	54.3	49.2	51.4	50.9	48.3
9	82.7	83.0	75.7	77.8	86.1	80.3	76.4	75.9	71.8	69.6	63.5	60.5
10	61.0	60.6	57.7	58.9	58.0	57.2	56.4	53.5	51.8	49.9	47.8	45.7
11	76.8	73.2	69.2	70.5	73.0	69.3	69.9	65.0	65.5	61.0	58.3	57.7
12	73.1	69.4	68.5	63.6	69.5	63.9	65.9	63.3	61.4	61.1	58.3	56.4
13	—	—	—	—	64.6	62.5	61.1	60.9	58.2	59.9	56.8	56.6
14	—	—	—	—	66.9	66.2	67.3	59.2	63.0	65.3	63.2	63.2
15	96.0	91.8	87.1	87.9	93.9	88.2	93.4	84.2	89.8	92.4	80.3	79.3
16	69.9	65.2	61.3	64.1	61.3	65.8	58.8	55.8	54.5	50.3	50.3	49.9
17	122.3	116.2	119.7	112.4	129.6	114.1	133.7	117.4	114.5	124.4	122.9	118.7
Province	**63.9**	**63.3**	**60.7**	**60.8**	**61.5**	**59.2**	**58.6**	**56.1**	**54.1**	**53.3**	**51.1**	**49.3**

Sources: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.
Alberta Health Care Insurance Plan Registration File, Alberta Health.

Notes:
1. Crude birth rate refers to number of live births per 1,000 population.
2. General fertility rate (GFR) refers to total number of live births per 1,000 women aged 15-49.
3. The populations are estimated at March 31, as viewed at September 30 of each year.
4. Population estimations for regions 13 and 14 are not available for years 1985/86 through 1988/89.
5. Regional Health Authority boundaries are current as of April, 1998
6. Births are for Alberta residents only.

Table A7 Live Births and Percent Distribution of Live Births by Age Group of Mother, and Age-Specific Fertility Rates, Alberta, 1985/86 -1996/97

Fiscal Year	Total	Age Group										
		< 15	15-17	18-19	15-19	20-24	25-29	30-34	35-39	40-44	> 44	Not Stated
Live births												
85/86	**43,330**	35	1,039	2,071	3,110	12,009	16,792	8,980	2,152	244	8	0
86/87	**43,087**	31	1,051	2,068	3,119	11,097	16,734	9,575	2,310	213	8	0
87/88	**41,508**	29	970	1,996	2,966	10,180	15,900	9,657	2,499	268	9	0
88/89	**41,984**	34	991	2,078	3,069	9,626	16,047	10,161	2,681	357	9	0
89/90	**43,281**	36	1,036	2,143	3,179	9,664	16,113	10,991	2,983	301	14	0
90/91	**42,333**	37	1,052	2,226	3,278	9,298	15,194	10,819	3,332	363	12	0
91/92	**42,436**	45	1,146	2,206	3,352	9,264	14,727	11,158	3,473	402	15	0
92/93	**40,990**	49	1,122	2,041	3,163	8,794	13,759	11,242	3,550	420	12	1
93/94	**39,888**	37	1,108	1,912	3,020	8,588	13,215	10,910	3,670	435	13	0
94/95	**39,399**	37	984	1,959	2,943	8,232	12,764	11,117	3,809	484	13	0
95/96	**38,068**	28	983	1,931	2,914	7,839	12,121	10,673	3,998	480	15	0
96/97	**37,209**	37	925	1,748	2,673	7,548	11,739	10,418	4,176	605	13	0
Percent distribution												
85/86	**100.0**	0.1	2.4	4.8	7.2	27.7	38.8	20.7	5.0	0.6	0.0	0.0
86/87	**100.0**	0.1	2.4	4.8	7.2	25.8	38.8	22.2	5.4	0.5	0.0	0.0
87/88	**100.0**	0.1	2.3	4.8	7.1	24.5	38.3	23.3	6.0	0.6	0.0	0.0
88/89	**100.0**	0.1	2.4	4.9	7.3	22.9	38.2	24.2	6.4	0.9	0.0	0.0
89/90	**100.0**	0.1	2.4	5.0	7.3	22.3	37.2	25.4	6.9	0.7	0.0	0.0
90/91	**100.0**	0.1	2.5	5.3	7.7	22.0	35.9	25.6	7.9	0.9	0.0	0.0
91/92	**100.0**	0.1	2.7	5.2	7.9	21.8	34.7	26.3	8.2	0.9	0.0	0.0
92/93	**100.0**	0.1	2.7	5.0	7.7	21.5	33.6	27.4	8.7	1.0	0.0	0.0
93/94	**100.0**	0.1	2.8	4.8	7.6	21.5	33.1	27.4	9.2	1.1	0.0	0.0
94/95	**100.0**	0.1	2.5	5.0	7.5	20.9	32.4	28.2	9.7	1.2	0.0	0.0
95/96	**100.0**	0.1	2.6	5.1	7.7	20.6	31.8	28.0	10.5	1.3	0.0	0.0
96/97	**100.0**	0.1	2.5	4.7	7.2	20.3	31.5	28.0	11.2	1.6	0.0	0.0
Age-specific fertility rate (per 1,000 women in each group)												
	TFR											
85/86	**1837**	0.4	18.9	54.1	33.3	101.2	127.5	78.5	22.7	3.5	0.1	
86/87	**1847**	0.4	19.3	54.5	33.7	98.3	128.7	81.3	24.1	2.9	0.1	
87/88	**1806**	0.3	18.2	52.2	32.4	95.1	123.9	80.3	25.7	3.4	0.2	
88/89	**1837**	0.4	19.0	53.8	33.8	93.4	126.3	82.5	26.5	4.3	0.1	
89/90	**1889**	0.4	19.8	56.6	35.2	95.5	128.1	87.0	28.0	3.4	0.2	
90/91	**1857**	0.4	19.7	60.7	36.4	92.2	124.6	84.0	29.7	3.9	0.2	
91/92	**1875**	0.5	21.1	61.0	37.1	92.9	124.9	85.6	29.6	4.2	0.2	
92/93	**1834**	0.5	20.5	56.7	34.8	89.8	122.1	85.8	29.3	4.3	0.2	
93/94	**1807**	0.4	20.0	51.6	32.7	88.9	122.1	83.6	29.4	4.3	0.2	
94/95	**1820**	0.4	17.5	52.6	31.5	86.9	123.2	87.2	30.1	4.6	0.1	
95/96	**1780**	0.3	17.1	51.7	30.7	83.9	118.6	87.1	31.1	4.3	0.2	
96/97	**1737**	0.3	15.5	46.1	27.4	79.6	115.1	87.6	32.0	5.2	0.1	

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.
Alberta Health Care Insurance Plan Registration File, Alberta Health.

Note:
1. Total fertility rate (TFR) refers to average number of children a woman can expect to have in her lifetime, based on the fertility rates of a given year. TFR is equal to the sum of the age-specific fertility rates (aged 15 to 49).
2. Age-specific fertility rate refers to number of live births per 1,000 women in a specific age group.
3. The age-specific fertility rates for age groups <15 and >44 are calculated based on female populations in 10-14 and 45-49 age groups respectively.
4. Populations are estimated at March 31, as viewed at September 30 of each year.
5. Births are for Alberta residents only.

Table A8 Age-Specific Fertility Rates by Residence RHA, Alberta, 1994/95-1996/97

RHA	Total Fertility Rate per 1,000 women	Age Group 10-14*	15-17	18-19	15-19	20-24	25-29	30-34	35-39	40-44	45-49**
1994/1995											
1	**2,251**	0.5	23.4	65.2	40.1	116.3	156.3	100.9	31.1	5.0	0.0
2	**1,980**	0.3	17.5	53.5	31.7	106.9	149.1	81.6	22.3	3.6	0.4
3	**1,735**	0.0	17.2	32.1	23.3	70.3	122.7	93.7	31.5	5.4	0.0
4	**1,635**	0.1	13.0	38.3	23.2	66.2	107.4	90.3	34.6	5.0	0.2
5	**1,901**	0.5	17.0	41.6	25.8	95.6	150.7	82.5	21.8	2.7	0.6
6	**2,034**	0.4	21.1	69.6	40.5	113.7	144.2	82.6	22.6	2.6	0.2
7	**1,692**	0.0	9.2	37.5	20.1	79.1	146.4	70.4	19.7	2.6	0.0
8	**1,874**	0.8	17.5	61.0	34.8	92.0	141.2	82.8	21.4	1.5	0.4
9	**2,506**	0.6	32.0	98.7	58.0	153.3	166.8	95.2	21.6	5.8	0.0
10	**1,676**	0.3	15.9	46.4	28.3	74.0	108.6	86.3	32.5	5.2	0.1
11	**2,179**	0.6	16.8	54.6	31.3	123.4	162.4	86.0	25.6	6.6	0.0
12	**2,152**	0.4	21.2	81.0	44.1	127.5	151.0	79.8	24.3	3.3	0.0
13	**2,042**	1.1	23.1	74.8	43.6	111.8	148.6	81.3	20.0	2.0	0.0
14	**2,256**	0.0	23.9	75.9	43.4	141.7	162.0	77.9	20.3	5.7	0.0
15	**2,834**	2.6	47.7	147.6	86.1	180.8	162.9	98.2	34.8	1.4	0.0
16	**1,767**	0.0	23.1	50.8	34.0	100.2	119.8	75.7	20.4	3.2	0.0
17	**3,663**	2.2	53.7	134.8	85.2	218.7	223.4	123.2	54.6	22.1	3.2
Province	**1,820**	**0.4**	**17.5**	**52.6**	**31.5**	**86.9**	**123.2**	**87.2**	**30.1**	**4.6**	**0.1**
1995/1996											
1	**2,212**	0.8	19.1	69.1	39.0	108.8	154.2	97.7	37.1	4.6	0.2
2	**1,971**	0.0	16.7	50.4	30.2	107.0	147.6	85.4	22.1	1.8	0.0
3	**1,595**	0.0	13.6	44.2	25.9	57.2	111.8	86.7	33.1	4.3	0.0
4	**1,602**	0.2	12.3	39.2	22.9	62.3	101.9	91.3	36.7	5.0	0.1
5	**1,978**	0.5	16.0	58.9	32.3	92.1	160.9	87.4	19.0	3.6	0.0
6	**1,996**	1.0	23.1	62.5	38.1	106.3	137.7	88.8	24.9	2.4	0.2
7	**1,586**	0.0	6.6	25.2	13.7	79.7	132.0	68.5	21.4	1.9	0.0
8	**1,898**	0.0	15.2	59.9	32.2	90.9	145.6	83.0	25.0	2.2	0.7
9	**2,375**	0.0	31.1	87.0	53.1	153.2	171.4	70.2	25.1	2.1	0.0
10	**1,642**	0.1	14.3	45.4	26.9	71.3	106.4	86.9	31.8	4.9	0.2
11	**2,117**	0.3	21.5	65.9	38.1	118.7	147.9	86.6	26.1	5.6	0.0
12	**2,093**	0.0	30.0	59.3	41.1	119.1	151.7	83.0	20.5	2.9	0.3
13	**1,973**	0.0	23.3	69.5	41.7	125.2	134.9	70.8	20.4	1.6	0.0
14	**2,194**	1.1	27.5	73.1	44.4	131.8	152.3	74.7	33.1	1.4	0.0
15	**2,495**	0.8	53.0	133.5	85.6	171.2	132.2	79.0	27.4	2.7	0.0
16	**1,800**	0.0	23.7	66.4	40.8	95.2	132.5	70.8	17.1	3.7	0.0
17	**3,625**	5.2	60.6	157.9	99.0	245.2	178.7	118.0	55.5	23.4	0.0
Province	**1,781**	**0.3**	**17.1**	**51.7**	**30.7**	**83.9**	**118.6**	**87.1**	**31.1**	**4.3**	**0.2**
1996/1997											
1	**2,163**	0.5	22.5	58.7	36.6	110.7	141.5	103.3	33.2	6.3	0.4
2	**1,846**	0.3	16.9	42.0	26.9	97.7	140.7	77.3	24.3	2.0	0.0
3	**1,598**	0.0	12.7	44.0	25.3	60.1	98.0	90.6	37.5	7.8	0.4
4	**1,558**	0.2	11.3	34.0	20.1	58.0	97.9	91.7	37.8	5.9	0.2
5	**1,857**	0.0	10.3	40.3	21.6	92.6	148.9	81.6	22.8	3.9	0.0
6	**1,976**	0.4	21.5	63.2	37.2	105.3	141.5	80.9	25.9	3.9	0.0
7	**1,621**	0.2	10.9	38.4	21.6	81.3	126.5	67.5	22.7	4.2	0.3
8	**1,832**	1.3	12.0	44.5	23.8	98.3	135.7	74.9	27.6	4.8	0.0
9	**2,235**	0.0	23.1	90.9	49.9	115.8	157.0	94.9	24.0	5.4	0.0
10	**1,589**	0.4	11.9	39.6	22.8	66.1	103.7	88.0	31.8	5.0	0.1
11	**2,138**	0.0	19.7	48.5	30.5	114.1	160.6	88.2	28.0	6.1	0.0
12	**2,055**	0.7	21.7	55.0	35.2	116.9	150.8	80.9	22.9	3.6	0.0
13	**1,967**	0.5	22.5	60.5	37.4	115.5	130.5	80.7	25.4	3.3	0.0
14	**2,222**	0.0	31.3	70.7	46.2	143.1	131.9	92.0	26.0	5.3	0.0
15	**2,497**	0.0	40.6	100.2	63.9	166.3	157.7	80.9	26.9	3.8	0.0
16	**1,758**	1.2	26.2	68.3	44.0	78.5	119.7	83.6	20.8	4.0	0.0
17	**3,528**	1.0	63.4	153.2	97.8	226.0	212.7	93.4	54.9	19.7	0.0
Province	**1,737**	**0.3**	**15.5**	**46.1**	**27.4**	**79.6**	**115.1**	**87.6**	**32.0**	**5.2**	**0.1**

Sources: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.
Alberta Health Care Insurance Plan Registration File, Alberta Health.

Notes:
1. Age-specific fertility rate refers to number of live births per 1,000 women in a specific age group.
2. The age-specific fertility rates for age groups 10-14 and 45-49 include births to mothers aged <15 and >49, respectively.
3. Populations are estimated at March 31, as viewed at September 30 of each year.
4. Regional Health Authority boundaries are current as of April, 1998
5. Births are for Alberta residents only.

Table A9 Total Births (All Weights) By Facility RHAs and Hospitals, Alberta, 1995 and 1996

Facility RHA	1995	1996	Change in # of Births	Percent Change
Hospital Births				
1	2,276	2,099	-177	-7.8
2	1,279	1,176	-103	-8.1
3	529	516	-13	-2.5
4	12,139	11,968	-171	-1.4
5	417	439	22	5.3
6	2,440	2,402	-38	-1.6
7	857	844	-13	-1.5
8	473	396	-77	-16.3
9	670	617	-53	-7.9
10	12,873	12,375	-498	-3.9
11	573	536	-37	-6.5
12	1,168	1,121	-47	-4
13	1,422	1,353	-69	-4.9
14	348	361	13	3.7
15	370	368	-2	-0.5
16	623	655	32	5.1
17	178	457	279	156.7
Total	38,635	37,683	-952	-2.5
Out-of-Hospital Births				
Planned	158	194	36	22.8
Unplanned	44	39	-5	-11.4
Total	202	233	31	15.3
***Provincial Total**	**38,837**	**37,916**	**-921**	**-2.4**

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Note: 1. * As determined by Hospital Statistics provided to the Reproductive Care Office.

2. Total births as recorded by Vital Statistics for 1996 is 38,160

3. RHA boundaries are current as of 1996.

Table A10 Live Births and Percent Distribution by Live Birth Order, Alberta, 1985/86-1996/97

Fiscal Year	Total	Birth Order 1st	2nd	3rd	4th	5th	6th	7+
Live births								
85/86	**43,330**	17,591	15,443	6,797	2,234	696	271	298
86/87	**43,087**	17,287	15,264	6,942	2,367	689	274	264
87/88	**41,508**	16,448	14,632	6,865	2,296	711	284	272
88/89	**41,984**	16,769	14,662	6,844	2,360	760	283	306
89/90	**43,281**	17,038	15,124	7,224	2,487	803	327	278
90/91	**42,333**	16,773	14,605	7,083	2,449	840	312	271
91/92	**42,436**	16,999	14,585	7,020	2,405	802	340	285
92/93	**40,990**	16,343	14,206	6,588	2,408	804	348	293
93/94	**39,888**	15,992	13,878	6,441	2,202	763	309	303
94/95	**39,399**	16,028	13,550	6,307	2,213	708	310	283
95/96	**38,068**	15,434	13,233	5,936	2,129	727	294	315
96/97	**37,209**	14,973	13,114	5,723	2,062	713	332	292
Percent distribution								
85/86	**100.00**	40.6	35.6	15.7	5.2	1.6	0.6	0.7
86/87	**100.00**	40.1	35.4	16.1	5.5	1.6	0.6	0.6
87/88	**100.00**	39.6	35.3	16.5	5.5	1.7	0.7	0.7
88/89	**100.00**	39.9	34.9	16.3	5.6	1.8	0.7	0.7
89/90	**100.00**	39.4	34.9	16.7	5.7	1.9	0.8	0.6
90/91	**100.00**	39.6	34.5	16.7	5.8	2.0	0.7	0.6
91/92	**100.00**	40.1	34.4	16.5	5.7	1.9	0.8	0.7
92/93	**100.00**	39.9	34.7	16.1	5.9	2.0	0.8	0.7
93/94	**100.00**	40.1	34.8	16.1	5.5	1.9	0.8	0.8
94/95	**100.00**	40.7	34.4	16.0	5.6	1.8	0.8	0.7
95/96	**100.00**	40.5	34.8	15.6	5.6	1.9	0.8	0.8
96/97	**100.00**	40.2	35.2	15.4	5.5	1.9	0.9	0.8

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.

Note: 1. Live birth order refers to the number of children born alive to the mother, including the present child.
2. Births are for Alberta residents only.

Table A11 Live Births by Live Birth Order and Residence RHA, Alberta, 1993/94-1996/97 -- Continued

Birth Order	Province	Residence RHA 1	2	3	4	5	6	7	8
1994/1995									
Total	**39,399**	**2,330**	**1,222**	**901**	**11,483**	**653**	**2,660**	**1,162**	**1,185**
1st	**16,028**	871	487	347	5,099	229	1,032	396	446
2nd	**13,550**	723	413	301	4,201	215	874	414	410
3rd	**6,307**	392	199	151	1,576	129	471	229	213
4th	**2,213**	192	76	50	434	51	172	84	80
5+	**1,301**	152	47	52	173	29	111	39	36
1995/1996									
Total	**38,068**	**2,266**	**1,213**	**830**	**11,221**	**670**	**2,604**	**1,074**	**1,193**
1st	**15,434**	835	509	353	4,913	252	980	376	482
2nd	**13,233**	700	394	258	4,103	207	852	377	427
3rd	**5,936**	396	200	137	1,550	125	448	217	182
4th	**2,129**	163	60	55	461	55	204	62	60
5+	**1,336**	172	50	27	194	31	120	42	42
1996/97									
Total	**37,208**	**2,208**	**1,132**	**859**	**11,078**	**619**	**2,553**	**1,087**	**1,148**
1st	**14,972**	794	461	329	4,879	200	936	406	430
2nd	**13,114**	688	385	310	4,043	225	902	385	415
3rd	**5,723**	380	188	131	1,494	111	444	197	195
4th	**2,062**	192	60	54	451	50	160	65	66
5+	**1,337**	154	38	35	211	33	111	34	42

Table A11 Live Births by Live Birth Order and Residence RHA, Alberta, 1993/94-1996/97 -- Concluded

Birth Order	Residence RHA 9	10	11	12	13	14	15	16	17
1994/1995									
Total	**674**	**10,880**	**1,249**	**1,641**	**1,330**	**336**	**599**	**565**	**529**
1st	234	4,667	459	562	489	139	182	245	144
2nd	227	3,758	428	527	457	97	183	195	127
3rd	111	1,695	227	322	223	61	127	82	99
4th	48	528	81	143	99	21	57	26	71
5+	54	232	54	87	62	18	50	17	88
1995/1996									
Total	**617**	**10,383**	**1,197**	**1,546**	**1,295**	**325**	**528**	**563**	**543**
1st	229	4,364	428	540	505	111	184	228	145
2nd	191	3,719	407	532	460	105	159	211	131
3rd	117	1,536	229	262	198	59	98	83	99
4th	37	515	80	125	88	23	44	29	68
5+	43	249	53	87	44	27	43	12	100
1996/97									
Total	**591**	**9,955**	**1,179**	**1,496**	**1,318**	**324**	**529**	**582**	**550**
1st	219	4,225	421	505	499	134	148	236	150
2nd	202	3,561	408	510	449	99	169	216	147
3rd	84	1,436	226	276	222	51	97	94	97
4th	39	499	73	107	81	23	59	23	60
5+	47	234	51	98	67	17	56	13	96

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.

Note
1. Live birth order refers to the number of children born alive to the mother, including the present child.
2. Regional Health Authority boundaries are current as of April, 1998
3. Births are for Alberta residents only.

Table A12 Spontaneous Abortions and Percent Distribution of Spontaneous Abortion by Age Group of Mother, and Age-Specific Spontaneous Abortion Rates, Alberta, 1985/86 -1996/97

		Age Group									
Fiscal Year	Total	< 15	15-17	18-19	15-19	20-24	25-29	30-34	35-39	40-44	> 44
Spontaneous Abortions											
85/86	**4,549**	14	146	230	376	1229	1536	943	359	82	10
86/87	**4,610**	12	147	263	410	1115	1638	935	405	78	17
87/88	**4,621**	7	150	243	393	1104	1515	1056	421	108	17
88/89	**4,906**	23	179	292	471	1077	1624	1127	458	114	12
89/90	**4,864**	11	194	300	494	1045	1537	1148	510	102	17
90/91	**4,988**	24	197	270	467	1086	1485	1233	531	154	8
91/92	**5,035**	17	185	293	478	1046	1478	1274	573	150	19
92/93	**5,354**	17	205	331	536	1145	1440	1351	658	180	27
93/94	**5,120**	17	233	340	573	1059	1370	1288	599	203	11
94/95	**5,122**	17	170	326	496	1115	1354	1209	698	217	16
95/96	**4,940**	18	200	282	482	984	1349	1170	687	229	21
96/97	**4,706**	12	182	261	443	925	1271	1162	646	221	26
Percent distribution											
85/86	**100.00**	0.3	3.2	5.1	8.3	27.0	33.8	20.7	7.9	1.8	0.2
86/87	**100.00**	0.3	3.2	5.7	8.9	24.2	35.5	20.3	8.8	1.7	0.4
87/88	**100.00**	0.2	3.2	5.3	8.5	23.9	32.8	22.9	9.1	2.3	0.4
88/89	**100.00**	0.5	3.6	6.0	9.6	22.0	33.1	23.0	9.3	2.3	0.2
89/90	**100.00**	0.2	4.0	6.2	10.2	21.5	31.6	23.6	10.5	2.1	0.3
90/91	**100.00**	0.5	3.9	5.4	9.4	21.8	29.8	24.7	10.6	3.1	0.2
91/92	**100.00**	0.3	3.7	5.8	9.5	20.8	29.4	25.3	11.4	3.0	0.4
92/93	**100.00**	0.3	3.8	6.2	10.0	21.4	26.9	25.2	12.3	3.4	0.5
93/94	**100.00**	0.3	4.6	6.6	11.2	20.7	26.8	25.2	11.7	4.0	0.2
94/95	**100.00**	0.3	3.3	6.4	9.7	21.8	26.4	23.6	13.6	4.2	0.3
95/96	**100.00**	0.4	4.0	5.7	9.8	19.9	27.3	23.7	13.9	4.6	0.4
96/97	**100.00**	0.3	3.9	5.5	9.4	19.7	27.0	24.7	13.7	4.7	0.6
Age-specific spontaneous abortion rate (per 1,000 women in each group)											
85/86	**5.9**	0.2	2.7	6.0	4.0	10.4	27.9	7.9	2.7	0.7	0.1
86/87	**6.0**	0.1	2.7	6.9	4.4	9.9	30.0	8.3	3.1	0.7	0.2
87/88	**6.0**	0.1	2.8	6.4	4.3	10.3	28.4	9.9	3.3	0.9	0.2
88/89	**6.3**	0.3	3.4	7.6	5.2	10.4	31.2	10.9	3.6	0.9	0.1
89/90	**6.1**	0.1	3.7	7.9	5.5	10.3	29.4	11.3	4.1	0.8	0.2
90/91	**6.2**	0.3	3.7	7.4	5.2	10.8	27.9	12.2	4.4	1.2	0.1
91/92	**6.1**	0.2	3.4	8.1	5.3	10.5	27.2	12.8	4.9	1.2	0.2
92/93	**6.5**	0.2	3.7	9.2	5.9	11.7	26.3	13.8	5.8	1.4	0.2
93/94	**6.1**	0.2	4.2	9.2	6.2	11.0	24.8	13.3	5.5	1.6	0.1
94/95	**6.1**	0.2	3.0	8.8	5.3	11.8	24.1	12.8	6.7	1.7	0.1
95/96	**5.8**	0.2	3.5	7.5	5.1	10.5	23.5	12.5	6.7	1.9	0.2
96/97	**5.5**	0.1	3.1	6.9	4.5	9.8	21.3	12.3	6.3	1.9	0.2

Source: Physician Claims Files, Alberta Health
Alberta Health Care Insurance Plan Registration File, Alberta Health.

Note:
1. Age-specific rate refers to number of spontaneous abortions per 1,000 women in a specific age group.
2. The age-specific rates for age groups <15 and >44 are calculated based on female populations in 10-14 and 45-49 age groups respectively.
3. Populations are estimated at March 31, as viewed at September 30 of each year.
4. Spontaneous abortions are for Alberta Residents only.

Table A13 Spontaneous Abortions by Residence RHA, Alberta, 1994/95-1996/97

RHA	Total	Age Group 10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49
1994/1995									
1	**300**	1	26	74	86	59	39	15	0
2	**135**	0	16	33	40	33	9	4	0
3	**107**	0	7	24	25	26	16	8	1
4	**1,502**	4	110	255	390	397	258	81	7
5	**104**	0	8	27	31	26	6	6	0
6	**318**	2	35	78	87	65	38	13	0
7	**130**	0	15	31	42	24	10	8	0
8	**151**	0	20	30	47	33	15	6	0
9	**66**	0	6	22	17	11	7	3	0
10	**1,506**	7	146	319	380	378	219	49	8
11	**120**	0	18	31	31	28	10	2	0
12	**172**	2	22	43	51	30	18	6	0
13	**163**	0	24	53	41	28	16	1	0
14	**41**	0	4	12	14	7	4	0	0
15	**71**	0	9	24	20	10	4	4	0
16	**45**	1	4	11	8	11	8	2	0
17	**63**	0	11	19	16	11	4	2	0
Unknown	**128**	0	15	29	28	32	17	7	0
Province	**5,122**	**17**	**496**	**1,115**	**1,354**	**1,209**	**698**	**217**	**16**
1995/1996									
1	**317**	0	29	65	92	64	45	19	3
2	**112**	1	12	27	36	21	11	4	0
3	**118**	1	12	27	24	30	19	5	0
4	**1,457**	2	106	228	381	390	259	85	6
5	**71**	0	9	19	18	15	8	2	0
6	**318**	0	34	89	84	73	33	5	0
7	**139**	0	15	34	39	30	13	6	2
8	**123**	0	12	23	40	30	13	2	3
9	**48**	0	7	11	18	8	4	0	0
10	**1,365**	9	115	249	361	333	219	72	7
11	**123**	0	17	34	42	19	7	4	0
12	**167**	1	24	41	49	37	10	5	0
13	**160**	1	21	36	55	33	11	3	0
14	**31**	0	5	9	14	1	2	0	0
15	**65**	0	12	18	19	10	5	1	0
16	**69**	0	13	13	17	18	7	1	0
17	**68**	1	11	20	11	12	8	5	0
Unknown	**189**	2	28	41	49	46	13	10	0
Province	**4,940**	**18**	**482**	**984**	**1,349**	**1,170**	**687**	**229**	**21**
1996/1997									
1	**322**	0	40	69	93	66	36	18	0
2	**128**	1	17	31	38	27	7	6	1
3	**101**	0	4	21	28	24	21	2	1
4	**1,474**	4	102	221	370	429	258	83	7
5	**74**	1	5	16	21	14	14	3	0
6	**289**	1	35	80	87	48	30	6	2
7	**95**	0	8	16	30	27	9	3	2
8	**96**	0	10	18	33	22	10	3	0
9	**47**	0	5	9	13	9	4	6	1
10	**1,228**	2	110	229	303	325	182	70	7
11	**78**	0	14	11	27	17	6	2	1
12	**165**	0	18	33	56	39	13	4	2
13	**168**	0	21	55	37	32	18	4	1
14	**43**	1	7	10	11	9	5	0	0
15	**75**	0	13	25	21	14	1	1	0
16	**65**	2	11	14	9	17	10	2	0
17	**61**	0	8	21	21	5	5	1	0
Unknown	**197**	0	15	46	73	38	17	7	1
Province	**4,706**	**12**	**443**	**925**	**1,271**	**1,162**	**646**	**221**	**26**

Source: Physician Claims Files, Alberta Health
Note: Regional Health Authority boundaries are current as of April, 1998

Table A14 Induced Abortions by Age, and Age-Specific Induced Abortion Rates, Alberta, 1985/86 -1996/97

Fiscal Year	Total	Age Group										
		< 15	15-17	18-19	15-19	20-24	25-29	30-34	35-39	40-44	> 44	Not Stated
Number of induced abortions												
85/86	**6,356**	57	618	885	1,503	2,252	1,351	765	342	78	8	0
86/87	**6,248**	37	623	904	1,527	2,136	1,339	751	347	103	8	0
87/88	**5,206**	43	486	781	1,267	1,675	1,201	646	286	84	4	0
88/89	**6,588**	39	596	1,021	1,617	2,147	1,463	807	393	113	9	0
89/90	**6,559**	43	510	969	1,479	2,133	1,445	899	430	121	9	0
90/91	**6,319**	47	513	864	1,377	2,013	1,377	933	434	134	4	0
91/92	**7,441**	60	679	981	1,660	2,322	1,618	1,067	577	128	9	0
92/93	**8,561**	71	809	1,094	1,903	2,739	1,831	1,235	632	142	8	0
93/94	**9,074**	60	886	1,256	2,142	2,867	1,753	1,332	750	162	8	0
94/95	**9,075**	65	826	1,303	2,129	2,803	1,820	1,300	761	193	4	0
95/96	**8,694**	59	803	1,136	1,939	2,732	1,795	1,235	736	190	7	1
96/97	**9,613**	43	863	1,323	2,186	3,022	1,966	1,298	817	262	19	0
Age-specific rate (per 1,000 women in each age group)												
	Rate per 1,000 women aged 15-49											
85/86	**9.4**	0.7	11.2	23.1	16.1	19.0	10.3	6.7	3.6	1.1	0.1	
86/87	**9.2**	0.4	11.4	23.8	16.5	19.0	10.4	6.4	3.6	1.4	0.1	
87/88	**7.6**	0.5	9.1	20.4	13.8	15.7	9.4	5.4	3.0	1.1	0.1	
88/89	**9.6**	0.4	11.4	26.5	17.8	21.0	11.6	6.6	3.9	1.4	0.1	
89/90	**9.4**	0.5	9.7	25.6	16.4	21.2	11.6	7.2	4.1	1.4	0.1	
90/91	**8.9**	0.5	9.6	23.6	15.3	20.1	11.4	7.3	3.9	1.4	0.1	
91/92	**10.3**	0.6	12.5	27.1	18.3	23.4	13.8	8.2	4.9	1.3	0.1	
92/93	**11.8**	0.7	14.8	30.4	20.9	28.2	16.3	9.5	5.2	1.5	0.1	
93/94	**12.4**	0.6	16.0	34.0	23.3	29.9	16.3	10.3	6.0	1.6	0.1	
94/95	**12.3**	0.6	14.7	35.1	22.9	29.8	17.7	10.2	6.0	1.8	0.0	
95/96	**11.7**	0.6	14.0	30.4	20.4	29.2	17.6	10.1	5.7	1.7	0.1	
96/97	**12.7**	0.4	14.5	34.9	22.4	31.9	19.3	10.9	6.3	2.2	0.2	

Sources: Clinic Files, Alberta Health.
Alberta Health Care Insurance Plan Registration File, Alberta Health.

Notes:
1. Age-specific rate refers to number of induced abortions per 1,000 women in a specific age group.
2. The age-specific rates for age groups <15 and >44 are calculated based on female populations in 10-14 and 45-49 age groups respectively.
3. Populations are estimated at March 31, as viewed at September 30 of each year.

Table A15 Induced Abortions by Facility Type, Alberta, 1985/86 - 1996/97

Fiscal Year	Total	Acute Care Hospital		Private Clinic	
		Cases	Percent	Cases	Percent
85/86	**6,356**	6,356	100.0	0	0.0
86/87	**6,248**	6,248	100.0	0	0.0
87/88	**5,206**	5,206	100.0	0	0.0
88/89	**6,588**	6,588	100.0	0	0.0
89/90	**6,559**	6,559	100.0	0	0.0
90/91	**6,319**	6,319	100.0	0	0.0
91/92	**7,441**	6,326	85.0	1,115	15.0
92/93	**8,561**	6,099	71.2	2,462	28.8
93/94	**9,074**	6,535	72.0	2,539	28.0
94/95	**9,075**	6,846	75.4	2,229	24.6
95/96	**8,694**	6,410	73.7	2,284	26.3
96/97	**9,613**	5,901	61.4	3,712	38.6

Sources: Clinics Files, Alberta Health.

Notes: Calculations are based on Alberta Residents only.
The clinics opened in the Fall of 1991.

Table A16 Induced Abortions by Facility Regions, Alberta, 1985/86 - 1996/97

Fiscal Year	Total	Edmonton (HOSPITALS AND CLINICS)		Calgary (HOSPITALS AND CLINICS)		Rural Areas (HOSPITALS)	
	Cases	Cases	Percent	Cases	Percent	Cases	Percent
85/86	**6,356**	2,312	36.4	3,028	47.6	1,016	16.0
86/87	**6,248**	1,818	29.1	3,208	51.3	1,222	19.6
87/88	**5,206**	1,282	24.6	2,937	56.4	987	19.0
88/89	**6,588**	2,201	33.4	3,313	50.3	1,074	16.3
89/90	**6,559**	2,384	36.3	3,264	49.8	911	13.9
90/91	**6,319**	2,369	37.5	3,287	52.0	663	10.5
91/92	**7,441**	3,113	41.8	3,632	48.8	696	9.4
92/93	**8,561**	3,538	41.3	4,587	53.6	436	5.1
93/94	**9,074**	3,711	40.9	4,841	53.4	522	5.8
94/95	**9,075**	3,641	40.1	4,843	53.4	591	6.5
95/96	**8,694**	3,449	39.7	4,746	54.6	499	5.7
96/97	**9,613**	4,176	43.4	4,962	51.6	475	4.9

Sources: Clinics Files, Alberta Health.

Notes: Calculations are based on Alberta Residents only
The clinics opened in the Fall of 1991.

Table A17 Induced Abortions by Week of Gestation and Age Group, Alberta, 1994/95 - 1996/97

Age Group	Total		Week of Gestation <9		9-12		13-16		17-20		>20	
	Cases	percent	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent
1994/1995												
<15	**65**	**100.0**	9	13.8	45	69.2	7	10.8	4	6.2	-	0.0
15-17	**826**	**100.0**	184	22.3	557	67.4	67	8.1	16	1.9	2	0.2
18-19	**1,303**	**100.0**	315	24.2	866	66.5	92	7.1	28	2.1	2	0.2
15-19	**2,129**	**100.0**	499	23.4	1,423	66.8	159	7.5	44	2.1	4	0.2
20-24	**2,803**	**100.0**	732	26.1	1,841	65.7	171	6.1	56	2.0	3	0.1
25-29	**1,820**	**100.0**	562	30.9	1,133	62.3	86	4.7	32	1.8	7	0.4
30-34	**1,300**	**100.0**	415	31.9	790	60.8	72	5.5	23	1.8	-	0.0
35-39	**761**	**100.0**	244	32.1	460	60.4	32	4.2	24	3.2	1	0.1
40-44	**193**	**100.0**	68	35.2	103	53.4	17	8.8	3	1.6	2	1.0
> 44	**4**	**100.0**	2	50.0	2	50.0	-	0.0	-	0.0	-	0.0
Total	**9,075**	**100.0**	**2,531**	**27.9**	**5,797**	**63.9**	**544**	**6.0**	**186**	**2.0**	**17**	**0.2**
1995/1996												
<15	**59**	**100.0**	6	10.2	48	81.4	4	6.8	1	1.7	-	0.0
15-17	**803**	**100.0**	184	22.9	532	66.3	51	6.4	35	4.4	1	0.1
18-19	**1,136**	**100.0**	258	22.7	769	67.7	74	6.5	34	3.0	1	0.1
15-19	**1,939**	**100.0**	442	22.8	1,301	67.1	125	6.4	69	3.6	2	0.1
20-24	**2,732**	**100.0**	702	25.7	1,800	65.9	160	5.9	66	2.4	4	0.1
25-29	**1,795**	**100.0**	535	29.8	1,153	64.2	77	4.3	27	1.5	3	0.2
30-34	**1,235**	**100.0**	444	36.0	705	57.1	58	4.7	27	2.2	1	0.1
35-39	**736**	**100.0**	278	37.8	408	55.4	34	4.6	16	2.2	-	0.0
40-44	**190**	**100.0**	73	38.4	106	55.8	9	4.7	2	1.1	-	0.0
> 44	**7**	**100.0**	1	14.3	6	85.7	-	0.0	-	0.0	-	0.0
Not Stated	**1**	**100.0**	-	0.0	1	100.0	-	0.0	-	0.0	-	0.0
Total	**8,694**	**100.0**	**2,481**	**28.5**	**5,528**	**63.6**	**467**	**5.4**	**208**	**2.4**	**10**	**0.1**
1996/1997												
<15	**43**	**100.0**	13	30.2	21	48.8	5	11.6	3	7.0	1	2.3
15-17	**863**	**100.0**	297	34.4	481	55.7	64	7.4	20	2.3	1	0.1
18-19	**1,323**	**100.0**	480	36.3	716	54.1	91	6.9	35	2.6	1	0.1
15-19	**2,186**	**100.0**	777	35.5	1,197	54.8	155	7.1	55	2.5	2	0.1
20-24	**3,022**	**100.0**	1,238	41.0	1,566	51.8	158	5.2	58	1.9	2	0.1
25-29	**1,966**	**100.0**	929	47.3	899	45.7	100	5.1	38	1.9	-	0.0
30-34	**1,298**	**100.0**	680	52.4	537	41.4	54	4.2	26	2.0	1	0.1
35-39	**817**	**100.0**	403	49.3	350	42.8	43	5.3	21	2.6	-	0.0
40-44	**262**	**100.0**	124	47.3	106	40.5	21	8.0	11	4.2	-	0.0
> 44	**19**	**100.0**	13	68.4	6	31.6	-	0.0	-	0.0	-	0.0
Total	**9,613**	**100.0**	**4,177**	**43.5**	**4,682**	**48.7**	**536**	**5.6**	**212**	**2.2**	**6**	**0.1**

Source: Clinics Files, Alberta Health.
Note Calculations are based on Alberta Residents only

Table A18 Induced Abortions by Week of Gestation and Facility Type, Alberta, 1985/86 - 1996/97

Fiscal Year	Total		Week of Gestation <9		9-12		13-16		17-20		>20	
	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent
All Facilities												
85/86	**6,356**	**100.0**	1,808	28.4	4,007	63.0	402	6.3	132	2.1	7	0.1
86/87	**6,248**	**100.0**	1,585	25.4	4,059	65.0	420	6.7	180	2.9	4	0.1
87/88	**5,206**	**100.0**	1,396	26.8	3,195	61.4	417	8.0	187	3.6	11	0.2
88/89	**6,588**	**100.0**	1,821	27.6	4,205	63.8	404	6.1	150	2.3	8	0.1
89/90	**6,559**	**100.0**	1,864	28.4	4,399	67.1	246	3.8	44	0.7	6	0.1
90/91	**6,319**	**100.0**	1,781	28.2	4,282	67.8	207	3.3	44	0.7	5	0.1
91/92	**7,441**	**100.0**	1,694	22.8	5,221	70.2	457	6.1	65	0.9	4	0.1
92/93	**8,561**	**100.0**	2,500	29.2	5,246	61.3	649	7.6	161	1.9	5	0.1
93/94	**9,074**	**100.0**	2,586	28.5	5,665	62.4	619	6.8	193	2.1	11	0.1
94/95	**9,075**	**100.0**	2,531	27.9	5,797	63.9	544	6.0	186	2.0	17	0.2
95/96	**8,694**	**100.0**	2,481	28.5	5,528	63.6	467	5.4	208	2.4	10	0.1
96/97	**9,613**	**100.0**	4,177	43.5	4,682	48.7	536	5.6	212	2.2	6	0.1
Acute Care Hospitals												
85/86	**6,356**	**100.0**	1,808	28.4	4,007	63.0	402	6.3	132	2.1	7	0.1
86/87	**6,248**	**100.0**	1,585	25.4	4,059	65.0	420	6.7	180	2.9	4	0.1
87/88	**5,206**	**100.0**	1,396	26.8	3,195	61.4	417	8.0	187	3.6	11	0.2
88/89	**6,588**	**100.0**	1,821	27.6	4,205	63.8	404	6.1	150	2.3	8	0.1
89/90	**6,559**	**100.0**	1,864	28.4	4,399	67.1	246	3.8	44	0.7	6	0.1
90/91	**6,319**	**100.0**	1,781	28.2	4,282	67.8	207	3.3	44	0.7	5	0.1
91/92	**6,326**	**100.0**	1,561	24.7	4,537	71.7	186	2.9	38	0.6	4	0.1
92/93	**6,099**	**100.0**	2,003	32.8	3,934	64.5	112	1.8	48	0.8	2	0.0
93/94	**6,535**	**100.0**	1,992	30.5	4,359	66.7	141	2.2	35	0.5	8	0.1
94/95	**6,846**	**100.0**	1,869	27.3	4,765	69.6	154	2.2	47	0.7	11	0.2
95/96	**6,410**	**100.0**	1,467	22.9	4,755	74.2	130	2.0	54	0.8	4	0.1
96/97	**5,901**	**100.0**	2,294	23.9	3,313	34.5	212	2.2	79	0.8	3	0.0
Private Clinics												
91/92	**1,115**	**100.0**	133	11.9	684	61.3	271	24.3	27	2.4	0	0.0
92/93	**2,462**	**100.0**	497	20.2	1,312	53.3	537	21.8	113	4.6	3	0.1
93/94	**2,539**	**100.0**	594	23.4	1,306	51.4	478	18.8	158	6.2	3	0.1
94/95	**2,229**	**100.0**	662	29.7	1,032	46.3	390	17.5	139	6.2	6	0.3
95/96	**2,284**	**100.0**	1,014	44.4	773	33.8	337	14.8	154	6.7	6	0.3
96/97	**3,712**	**100.0**	1,883	19.6	1,369	14.2	324	3.4	133	1.4	3	0.0

Source: Clinics Files, Alberta Health.

Note Calculations are based on Alberta Residents only
The clinics opened in the Fall of 1991.

Table A19 Induced Abortions by Week of Gestation and Facility Region, Alberta, 1985/86 - 1996/97

Fiscal Year	Total	Week of Gestation									
		<9		9-12		13-16		17 - 20		>20	
	Cases	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent
All Alberta (Hospitals and Clinics*)											
85/86	**6,356**	1,808	28.4	4,007	63.0	402	6.3	132	2.1	7	0.1
86/87	**6,248**	1,585	25.4	4,059	65.0	420	6.7	180	2.9	4	0.1
87/88	**5,206**	1,396	26.8	3,195	61.4	417	8.0	187	3.6	11	0.2
88/89	**6,588**	1,821	27.6	4,205	63.8	404	6.1	150	2.3	8	0.1
89/90	**6,559**	1,864	28.4	4,399	67.1	246	3.8	44	0.7	6	0.1
90/91	**6,319**	1,781	28.2	4,282	67.8	207	3.3	44	0.7	5	0.1
91/92	**7,441**	1,694	22.8	5,221	70.2	457	6.1	65	0.9	4	0.1
92/93	**8,561**	2,500	29.2	5,246	61.3	649	7.6	161	1.9	5	0.1
93/94	**9,074**	2,586	28.5	5,665	62.4	619	6.8	193	2.1	11	0.1
94/95	**9,075**	2,531	27.9	5,797	63.9	544	6.0	186	2.0	17	0.2
95/96	**8,694**	2,481	28.5	5,528	63.6	467	5.4	208	2.4	10	0.1
96/97	**9,613**	4,177	43.5	4,682	48.7	536	5.6	212	2.2	6	0.1
Edmonton (Hospitals and Clinics*)											
85/86	**2,312**	709	30.7	1,497	64.7	90	3.9	15	0.6	1	0.0
86/87	**1,818**	600	33.0	1,139	62.7	67	3.7	10	0.6	2	0.1
87/88	**1,282**	504	39.3	714	55.7	53	4.1	9	0.7	2	0.2
88/89	**2,201**	600	27.3	1,515	68.8	76	3.5	10	0.5	0	0.0
89/90	**2,384**	648	27.2	1,667	69.9	54	2.3	11	0.5	4	0.2
90/91	**2,369**	483	20.4	1,802	76.1	58	2.4	22	0.9	4	0.2
91/92	**3,113**	473	15.2	2,334	75.0	267	8.6	36	1.2	3	0.1
92/93	**3,538**	460	13.0	2,666	75.4	365	10.3	44	1.2	3	0.1
93/94	**3,711**	552	14.9	2,803	75.5	320	8.6	31	0.8	5	0.1
94/95	**3,641**	691	19.0	2,689	73.9	214	5.9	41	1.1	6	0.2
95/96	**3,449**	814	23.6	2,421	70.2	176	5.1	33	1.0	5	0.1
96/97	**4,176**	1,820	43.6	2,081	49.8	219	5.2	53	1.3	3	0.1
Calgary (Hospitals and Clinics*)											
85/86	**3,028**	789	26.1	1,850	61.1	271	8.9	112	3.7	6	0.2
86/87	**3,208**	587	18.3	2,143	66.8	310	9.7	166	5.2	2	0.1
87/88	**2,937**	579	19.7	1,836	62.5	337	11.5	177	6.0	8	0.3
88/89	**3,313**	862	26.0	2,015	60.8	292	8.8	137	4.1	7	0.2
89/90	**3,264**	873	26.7	2,197	67.3	160	4.9	33	1.0	1	0.0
90/91	**3,287**	1,073	32.6	2,060	62.7	131	4.0	22	0.7	1	0.0
91/92	**3,632**	982	27.0	2,445	67.3	175	4.8	29	0.8	1	0.0
92/93	**4,587**	1,850	40.3	2,349	51.2	273	6.0	114	2.5	1	0.0
93/94	**4,841**	1,800	37.2	2,584	53.4	290	6.0	161	3.3	6	0.1
94/95	**4,843**	1,576	32.5	2,804	57.9	308	6.4	144	3.0	11	0.2
95/96	**4,746**	1,460	30.8	2,827	59.6	280	5.9	175	3.7	4	0.1
96/97	**4,962**	2,106	42.4	2,380	48.0	315	6.3	158	3.2	3	0.1
Rural Hospitals											
85/86	**1,016**	310	30.5	660	65.0	41	4.0	5	0.5	0	0.0
86/87	**1,222**	398	32.6	777	63.6	43	3.5	4	0.3	0	0.0
87/88	**987**	313	31.7	645	65.3	27	2.7	1	0.1	1	0.1
88/89	**1,074**	359	33.4	675	62.8	36	3.4	3	0.3	1	0.1
89/90	**911**	343	37.7	535	58.7	32	3.5	0	0.0	1	0.1
90/91	**663**	225	33.9	420	63.3	18	2.7	0	0.0	0	0.0
91/92	**696**	239	34.3	442	63.5	15	2.2	0	0.0	0	0.0
92/93	**436**	190	43.6	231	53.0	11	2.5	3	0.7	1	0.2
93/94	**522**	234	44.8	278	53.3	9	1.7	1	0.2	0	0.0
94/95	**591**	264	44.7	304	51.4	22	3.7	1	0.2	0	0.0
95/96	**499**	207	41.5	280	56.1	11	2.2	0	0.0	1	0.2
96/97	**475**	251	52.8	221	46.5	2	0.4	1	0.2	0	0.0

Source: Clinics Files, Alberta Health.

Note Calculations are based on Alberta Residents only.
The clinics opened in the Fall of 1991.

Table A20 Type of Labour (per 100 hospital deliveries), Alberta, 1985/86 - 1996/97

RHA	Total hospital deliveries	Total Induction		Medical Induction		Surgical Induction		Combined Induction		Spontaneous Labour	
		# of Cases	Rate	# of Cases	Rate	# of Cases	Rate	# of Cases	Rate	# of Cases	Rate
	Number of hospital deliveries										
85/86	**43,675**	5,797	13.3	3,902	8.9	1,246	2.9	649	1.5	37,878	86.7
86/87	**43,367**	6,225	14.4	4,129	9.5	1,372	3.2	724	1.7	37,142	85.6
87/88	**41,741**	4,990	12.0	3,578	8.6	998	2.4	414	1.0	36,751	88.0
88/89	**42,277**	5,112	12.1	3,507	8.3	1,062	2.5	543	1.3	37,165	87.9
89/90	**43,578**	7,280	16.7	4,479	10.3	1,548	3.6	1,253	2.9	36,298	83.3
90/91	**42,800**	6,958	16.3	4,578	10.7	1,251	2.9	1,129	2.6	35,842	83.7
91/92	**42,636**	6,922	16.2	4,527	10.6	1,309	3.1	1,086	2.5	35,714	83.8
92/93	**41,036**	6,707	16.3	4,202	10.2	1,374	3.3	1,131	2.8	34,329	83.7
93/94	**39,978**	7,843	19.6	4,496	11.2	1,995	5.0	1,352	3.4	32,135	80.4
94/95	**39,505**	8,055	20.4	4,912	12.4	1,919	4.9	1,224	3.1	31,450	79.6
95/96	**37,947**	7,562	19.9	5,064	13.3	1,282	3.4	1,216	3.2	30,385	80.1
96/97	**36,996**	8,017	21.7	5,952	16.1	923	2.5	1,142	3.1	28,979	78.3

Source: Hospital Morbidity Files, Alberta Health.

Calculation: Rate = (# of cases) / (# of hospital deliveries) * 100

ICD-9 codes: Hospital delivery: Diagnostic codes 640-648 if 5th digit=1 or 2 or 650 or 651-676 if 5th digit=1 or 2 or V27 or procedure codes 72.0 to 74.99
Medical induction: Procedure codes 73.4 without 73.01 or 73.1
Surgical induction: procedure codes 73.01 and/or 73.1 without 73.4
Combined induction: procedure codes: 73.4 with 73.01 and/or 73.1

Notes:
1. Number of spontaneous labour are estimated by (total hospital deliveries - total number of inductions).
2. All ICD-9 codes are based on the first three diagnostic codes and the first three procedure codes in the Hospital Morbidity Files.
3. Provincial rates include 'out of province' cases.

Table A21 Type of Labour (per 100 hospital deliveries) by Residence RHA, Alberta, 1994/95 - 1996/97

RHA	Total hospital deliveries	Total Induction		Medical Induction		Surgical Induction		Combined Induction		Spontaneous Labour	
		# of Cases	Rate	# of Cases	Rate	# of Cases	Rate	# of Cases	Rate	# of Cases	Rate
1994/1995											
1	**2,194**	154	7.0	99	4.5	52	2.4	3	0.1	2,040	93.0
2	**1,199**	167	13.9	140	11.7	15	1.3	12	1.0	1,032	86.1
3	**887**	166	18.7	123	13.9	24	2.7	19	2.1	721	81.3
4	**11,292**	2,086	18.5	1,156	10.2	389	3.4	541	4.8	9,206	81.5
5	**665**	101	15.2	76	11.4	12	1.8	13	2.0	564	84.8
6	**2,640**	473	17.9	356	13.5	37	1.4	80	3.0	2,167	82.1
7	**1,124**	232	20.6	183	16.3	30	2.7	19	1.7	892	79.4
8	**1,134**	320	28.2	194	17.1	80	7.1	46	4.1	814	71.8
9	**545**	109	20.0	90	16.5	15	2.8	4	0.7	436	80.0
10	**10,579**	2,691	25.4	1,355	12.8	1,006	9.5	330	3.1	7,888	74.6
11	**1,171**	293	25.0	215	18.4	35	3.0	43	3.7	878	75.0
12	**1,627**	343	21.1	239	14.7	68	4.2	36	2.2	1,284	78.9
13	**1,314**	298	22.7	252	19.2	24	1.8	22	1.7	1,016	77.3
14	**327**	50	15.3	47	14.4	2	0.6	1	0.3	277	84.7
15	**593**	176	29.7	112	18.9	51	8.6	13	2.2	417	70.3
16	**546**	70	12.8	42	7.7	16	2.9	12	2.2	476	87.2
17	**508**	97	19.1	79	15.6	13	2.6	5	1.0	411	80.9
Out of Province	**1,160**	229	19.7	154	13.3	50	4.3	25	2.2	931	80.3
Province	**39,505**	8,055	20.4	**4,912**	**12.4**	**1,919**	**4.9**	**1,224**	**3.1**	**31,450**	**79.6**
1995/1996											
1	**2,100**	167	8.0	116	5.5	42	2.0	9	0.4	1,933	92.0
2	**1,194**	133	11.1	114	9.5	14	1.2	5	0.4	1,061	88.9
3	**831**	158	19.0	111	13.4	16	1.9	31	3.7	673	81.0
4	**11,091**	1,810	16.3	1,085	9.8	267	2.4	458	4.1	9,281	83.7
5	**701**	131	18.7	104	14.8	15	2.1	12	1.7	570	81.3
6	**2,571**	523	20.3	387	15.1	61	2.4	75	2.9	2,048	79.7
7	**1,018**	210	20.6	181	17.8	15	1.5	14	1.4	808	79.4
8	**1,175**	285	24.3	179	15.2	50	4.3	56	4.8	890	75.7
9	**516**	116	22.5	98	19.0	13	2.5	5	1.0	400	77.5
10	**10,004**	2,536	25.3	1,525	15.2	594	5.9	417	4.2	7,468	74.7
11	**1,127**	313	27.8	231	20.5	31	2.8	51	4.5	814	72.2
12	**1,542**	362	23.5	292	18.9	36	2.3	34	2.2	1,180	76.5
13	**1,258**	310	24.6	277	22.0	21	1.7	12	1.0	948	75.4
14	**311**	42	13.5	42	13.5	-	0.0	-	0.0	269	86.5
15	**512**	142	27.7	119	23.2	16	3.1	7	1.4	370	72.3
16	**544**	62	11.4	19	3.5	35	6.4	8	1.5	482	88.6
17	**502**	101	20.1	87	17.3	9	1.8	5	1.0	401	79.9
Out of Province	**950**	161	16.9	97	10.2	47	4.9	17	1.8	789	83.1
Province	**37,947**	7,562	19.9	**5,064**	**13.3**	**1,282**	**3.4**	**1,216**	**3.2**	**30,385**	**80.1**
1996/1997											
1	**2,056**	383	18.6	346	16.8	30	1.5	7	0.3	1,673	81.4
2	**1,112**	113	10.2	98	8.8	13	1.2	2	0.2	999	89.8
3	**835**	155	18.6	123	14.7	14	1.7	18	2.2	680	81.4
4	**10,895**	1,856	17.0	1,207	11.1	231	2.1	418	3.8	9,039	83.0
5	**653**	125	19.1	100	15.3	10	1.5	15	2.3	528	80.9
6	**2,490**	621	24.9	448	18.0	68	2.7	105	4.2	1,869	75.1
7	**1,046**	234	22.4	202	19.3	19	1.8	13	1.2	812	77.6
8	**1,116**	250	22.4	180	16.1	31	2.8	39	3.5	866	77.6
9	**503**	132	26.2	115	22.9	10	2.0	7	1.4	371	73.8
10	**9,579**	2,716	28.4	1,928	20.1	387	4.0	401	4.2	6,863	71.6
11	**1,095**	288	26.3	222	20.3	26	2.4	40	3.7	807	73.7
12	**1,482**	356	24.0	305	20.6	21	1.4	30	2.0	1,126	76.0
13	**1,293**	252	19.5	243	18.8	6	0.5	3	0.2	1,041	80.5
14	**315**	46	14.6	44	14.0	1	0.3	1	0.3	269	85.4
15	**512**	111	21.7	97	18.9	6	1.2	8	1.6	401	78.3
16	**563**	124	22.0	84	14.9	27	4.8	13	2.3	439	78.0
17	**525**	89	17.0	80	15.2	6	1.1	3	0.6	436	83.0
Out of Province	**926**	166	17.9	130	14.0	17	1.8	19	2.1	760	82.1
Province	**36,996**	8,017	21.7	**5,952**	**16.1**	**923**	**2.5**	**1,142**	**3.1**	**28,979**	**78.3**

Source: Hospital Morbidity Files, Alberta Health.

Calculation: Rate = (# of cases) / (# of hospital deliveries) * 100

ICD-9 codes: Hospital delivery: Diagnostic codes 640-648 if 5th digit=1 or 2 or 650 or 651-676 if 5th digit=1 or 2 or V27 or procedure codes 72.0 to 74.99
Medical induction: Procedure codes 73.4 without 73.01 or 73.1
Surgical induction: procedure codes 73.01 and/or 73.1 without 73.4
Combined induction: procedure codes: 73.4 with 73.01 and/or 73.1

Note:
1. Provincial rates include 'out of province' cases.
2. Number of spontaneous labour are estimated by (total hospital deliveries - total number of inductions).
3. All ICD-9 codes are based on the first three diagnostic codes and the first three procedure codes in the Hospital Morbidity Files.
4. Regional Health Authority boundaries are current as of April, 1998
5. Regional Health Authority are by residence of mothers.

Table A22 Operative Delivery Rates (per 100 hospital deliveries), Alberta, 1985/86 - 1996/97

Fiscal Year	Total number of hospital deliveries	C-section		Forceps		Vacuum Extraction		Forceps and/or Vacuum		Vaginal Breech Delivery	
		# of Cases	Rate	# of Cases	Rate	# of Cases	Rate	# of Cases	Rate	# of Cases	Rate
	Number of hospital deliveries										
85/86	**43,675**	7,223	16.5	6,073	13.9	188	0.4	6,261	14.3	414	0.9
86/87	**43,367**	7,178	16.6	5,766	13.3	352	0.8	6,118	14.1	399	0.9
87/88	**41,741**	7,212	17.3	5,031	12.1	744	1.8	5,775	13.8	352	0.8
88/89	**42,277**	7,076	16.7	4,898	11.6	1,064	2.5	5,962	14.1	357	0.8
89/90	**43,578**	7,133	16.4	4,726	10.8	1,770	4.1	6,496	14.9	420	1.0
90/91	**42,800**	6,796	15.9	4,061	9.5	2,428	5.7	6,489	15.2	409	1.0
91/92	**42,636**	6,894	16.2	3,418	8.0	2,621	6.1	6,039	14.2	398	0.9
92/93	**41,036**	6,553	16.0	3,076	7.5	2,988	7.3	6,064	14.8	324	0.8
93/94	**39,978**	6,220	15.6	2,974	7.4	3,106	7.8	6,080	15.2	377	0.9
94/95	**39,505**	6,227	15.8	2,878	7.3	3,296	8.3	6,174	15.6	343	0.9
95/96	**37,947**	6,021	15.9	2,499	6.6	3,557	9.4	6,056	16.0	309	0.8
96/97	**36,996**	6,029	16.3	2,392	6.5	3,798	10.3	6,190	16.7	344	0.9

Source: Hospital Morbidity Files, Alberta Health.

Calculations: Rate = (# of cases) / (# of hospital deliveries) * 100

ICD-9 codes: Normal case: diagnostic code 650
C-section: Procedure code 74
Forceps: Procedure 72.0 or 72.1 or 72.2 or 72.21 or 72.29 or 72.3 or 72.31 or 72.39
Vacuum Extraction: Procedure 72.7
Vaginal breech: Diagnostic code 652.2 or procedure codes 72.5 or 72.6
Other: Procedure 72.8 or 72.9 or 73.2 or 73.5 or 73.8 or 73.9

Notes:
1. The method of delivery categories are not mutually exclusive.
2. Provincial figures include 'out of province' cases.
3. All ICD-9 codes are based on the first three diagnostic codes and the first three procedure codes in the Hospital Morbidity Files. in the Hospital Morbidity Files.

Table A23 Method of Delivery Rates (per 100 hospital deliveries) by Residence RHA, Alberta, 1994/95 - 1996/97

RHA	Total number of hospital deliveries	Delivery in a completely normal case		C-section		Forceps		Vacuum Extraction		Vaginal Breech Delivery		Other	
		# of Cases	Rate	# of Cases	Rate	# of Cases	Rate	# of Cases	Rate	# of Cases	Rate	# of Cases	Rate
1994/1995													
1	**2,194**	223	10.2	276	12.6	142	6.5	195	8.9	27	1.2	656	29.9
2	**1,199**	76	6.3	106	8.8	30	2.5	135	11.3	10	0.8	138	11.5
3	**887**	79	8.9	134	15.1	64	7.2	79	8.9	7	0.8	130	14.7
4	**11,292**	822	7.3	1,930	17.1	997	8.8	1,175	10.4	96	0.9	2,866	25.4
5	**665**	111	16.7	117	17.6	45	6.8	39	5.9	8	1.2	123	18.5
6	**2,640**	337	12.8	442	16.7	124	4.7	58	2.2	37	1.4	661	25.0
7	**1,124**	228	20.3	223	19.8	114	10.1	46	4.1	13	1.2	90	8.0
8	**1,134**	133	11.7	155	13.7	77	6.8	102	9.0	6	0.5	122	10.8
9	**545**	57	10.5	95	17.4	21	3.9	53	9.7	5	0.9	37	6.8
10	**10,579**	906	8.6	1,560	14.7	878	8.3	871	8.2	95	0.9	198	1.9
11	**1,171**	136	11.6	177	15.1	48	4.1	117	10.0	11	0.9	133	11.4
12	**1,627**	209	12.8	280	17.2	82	5.0	148	9.1	4	0.2	157	9.6
13	**1,314**	235	17.9	195	14.8	40	3.0	63	4.8	5	0.4	35	2.7
14	**327**	66	20.2	69	21.1	10	3.1	22	6.7	-	0.0	2	0.6
15	**593**	127	21.4	72	12.1	19	3.2	25	4.2	3	0.5	64	10.8
16	**546**	156	28.6	134	24.5	92	16.8	33	6.0	2	0.4	35	6.4
17	**508**	79	15.6	56	11.0	15	3.0	37	7.3	2	0.4	3	0.6
out of province	**1,160**	148	12.8	206	17.8	80	6.9	98	8.4	12	1.0	229	19.7
Province	**39,505**	**4,128**	**10.4**	**6,227**	**15.8**	**2,878**	**7.3**	**3,296**	**8.3**	**343**	**0.9**	**5,679**	**14.4**
1995/1996													
1	**2,100**	215	10.2	265	12.6	134	6.4	191	9.1	30	1.4	663	31.6
2	**1,194**	103	8.6	111	9.3	29	2.4	103	8.6	17	1.4	149	12.5
3	**831**	76	9.1	146	17.6	56	6.7	84	10.1	6	0.7	122	14.7
4	**11,091**	873	7.9	1,842	16.6	865	7.8	1,258	11.3	107	1.0	3,433	31.0
5	**701**	106	15.1	118	16.8	55	7.8	61	8.7	5	0.7	124	17.7
6	**2,571**	277	10.8	413	16.1	114	4.4	38	1.5	39	1.5	503	19.6
7	**1,018**	144	14.1	206	20.2	91	8.9	49	4.8	6	0.6	66	6.5
8	**1,175**	150	12.8	152	12.9	70	6.0	132	11.2	5	0.4	102	8.7
9	**516**	60	11.6	86	16.7	27	5.2	49	9.5	3	0.6	46	8.9
10	**10,004**	859	8.6	1,589	15.9	750	7.5	937	9.4	60	0.6	386	3.9
11	**1,127**	118	10.5	166	14.7	49	4.3	119	10.6	3	0.3	134	11.9
12	**1,542**	164	10.6	269	17.4	80	5.2	207	13.4	12	0.8	62	4.0
13	**1,258**	182	14.5	178	14.1	26	2.1	75	6.0	3	0.2	38	3.0
14	**311**	69	22.2	61	19.6	9	2.9	25	8.0	2	0.6	4	1.3
15	**512**	110	21.5	80	15.6	15	2.9	28	5.5	2	0.4	37	7.2
16	**544**	175	32.2	134	24.6	59	10.8	71	13.1	-	0.0	1	0.2
17	**502**	87	17.3	49	9.8	16	3.2	57	11.4	-	0.0	6	1.2
out of province	**950**	111	11.7	156	16.4	54	5.7	73	7.7	9	0.9	116	12.2
Province	**37,947**	**3,879**	**10.2**	**6,021**	**15.9**	**2,499**	**6.6**	**3,557**	**9.4**	**309**	**0.8**	**5,992**	**15.8**
1996/1997													
1	**2,056**	178	8.7	292	14.2	115	5.6	175	8.5	23	1.1	413	20.1
2	**1,112**	100	9.0	121	10.9	29	2.6	128	11.5	12	1.1	132	11.9
3	**835**	82	9.8	157	18.8	49	5.9	56	6.7	6	0.7	141	16.9
4	**10,895**	764	7.0	1,861	17.1	874	8.0	1,282	11.8	143	1.3	3,282	30.1
5	**653**	102	15.6	118	18.1	39	6.0	82	12.6	2	0.3	99	15.2
6	**2,490**	242	9.7	428	17.2	108	4.3	55	2.2	29	1.2	404	16.2
7	**1,046**	125	12.0	214	20.5	72	6.9	63	6.0	5	0.5	49	4.7
8	**1,116**	129	11.6	149	13.4	67	6.0	137	12.3	10	0.9	132	11.8
9	**503**	54	10.7	73	14.5	25	5.0	62	12.3	2	0.4	42	8.3
10	**9,579**	720	7.5	1,552	16.2	713	7.4	1,089	11.4	76	0.8	350	3.7
11	**1,095**	118	10.8	159	14.5	58	5.3	124	11.3	8	0.7	162	14.8
12	**1,482**	124	8.4	266	17.9	66	4.5	209	14.1	7	0.5	77	5.2
13	**1,293**	179	13.8	186	14.4	12	0.9	68	5.3	2	0.2	25	1.9
14	**315**	84	26.7	62	19.7	9	2.9	28	8.9	1	0.3	7	2.2
15	**512**	122	23.8	59	11.5	24	4.7	26	5.1	6	1.2	68	13.3
16	**563**	112	19.9	124	22.0	66	11.7	72	12.8	3	0.5	30	5.3
17	**525**	105	20.0	60	11.4	8	1.5	55	10.5	2	0.4	5	1.0
out of province	**926**	90	9.7	148	16.0	58	6.3	87	9.4	7	0.8	101	10.9
Province	**36,996**	**3,430**	**9.3**	**6,029**	**16.3**	**2,392**	**6.5**	**3,798**	**10.3**	**344**	**0.9**	**5,519**	**14.9**

Source: Hospital Morbidity Files, Alberta Health.

Calculations: Rate = (# of cases) / (# of hospital deliveries) * 100

ICD-9 codes: Hospital deliveries: Diagnostic codes 640-648 if 5th digit=1 or 2 or 650 or 651-676 if 5th digit=1 or 2 or V27 or procedure codes 72.0 to 74.99
Normal case: diagnostic code 650
C-section: Procedure code 74
Forceps: Procedure 72.0 or 72.1 or 72.2 or 72.21 or 72.29 or 72.3 or 72.31 or 72.39
Vacuum Extraction: Procedure 72.7
Vaginal breech: Diagnostic code 652.2 or procedure codes 72.5 or 72.6
Other: Procedure 72.8 or 72.9 or 73.2 or 73.5 or 73.8 or 73.9

Notes:
1. The method of delivery categories are not mutually exclusive.
2. Provincial rates include 'out of province' cases.
3. All ICD-9 codes are based on the first three diagnostic codes and the first three procedure codes in the Hospital Morbidity Files.
4. Regional Health Authority boundaries are current as of April, 1998
5. Regional Health Authority are by residence of mothers.

Table A24 Cesarean Sections (All Weights), Primary and Repeat Rates, Alberta, 1996

Facility RHA	Total Pregnancies	Pregnancies Del.by C/S		Primary C/S		Primary C/S Rate per 100 C/S	Repeat C/S		C/S Perinatal & Neonatal Deaths		Trial of Labour		Vaginal Birth After Cesarean Section (VBAC)		
		Total	Rate %[1]	Cases	Rate %*		Cases	Rate %[1]	Cases	Rate[3]	# Attempted[7]	Attempted Rate[4]	# VBAC Successful	VBACRate[5]	VBAC Success Rate[6]
1	2,075	300	14.5	183	8.8	61.0	117	5.6	2	6.7	86	44.6	76	39.4	88.4
2	1,168	110	9.4	76	6.5	69.1	34	2.9	1	9.1	68	76.4	55	61.8	80.9
3	516	89	17.2	60	11.6	67.4	29	5.6	1	11.2	17	41.5	12	29.3	70.6
4	11,783	2,072	17.6	1,442	12.2	69.6	630	5.3	26	12.5	816	66.2	602	48.9	73.8
5	436	60	13.8	40	9.2	66.7	20	4.6	0	0.0	35	94.6	17	45.9	48.6
6	2,372	411	17.3	244	10.3	59.4	167	7.0	1	2.4	127	49.6	89	34.8	70.1
7	843	145	17.2	78	9.3	53.8	67	7.9	2	13.8	39	41.9	26	28.0	66.7
8	395	32	8.1	23	5.8	71.9	9	2.3	1	31.3	35	102.9	25	73.5	71.4
9	616	63	10.2	40	6.5	63.5	23	3.7	0	0.0	28	62.2	22	48.9	78.6
10	12,257	2,098	17.1	1,419	11.6	67.6	679	5.5	24	11.4	718	58.1	557	45.1	77.6
11	535	55	10.3	31	5.8	56.4	24	4.5	0	0.0	20	48.8	17	41.5	85.0
12	1,120	164	14.6	91	8.1	55.5	73	6.5	0	0.0	32	34.8	19	20.7	59.4
13	1,344	183	13.6	108	8.0	59.0	75	5.6	3	16.4	47	38.5	47	38.5	100.0
14	360	76	21.1	49	13.6	64.5	27	7.5	2	26.3	9	28.1	5	15.6	55.6
15	368	26	7.1	20	5.4	76.9	6	1.6	0	0.0	7	53.8	7	53.8	100.0
16	652	130	19.9	81	12.4	62.3	49	7.5	0	0.0	39	51.3	27	35.5	69.2
17	456	39	8.6	23	5.0	59.0	16	3.5	1	25.6	8	36.4	6	27.3	75.0
Total	**37,296**	**6,053**	**16.2**	**4,008**	**10.7**	**66.2**	**2045**	**5.5**	**64**	**10.6**	**2131**	**58.3**	**1609**	**44.0**	**75.5**

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Calculations:
1. C/S Rate = (# of C/S / Total Mother Delivered) x 100
2. (Primary C/S / Total C/S) x 100
3. (C/S Deaths (Stillbirth + Early-neonatal deaths + Late-neonatal deaths) / C/S Pregnancies) x 1000
4. Trial of Labour Attempted Rate = (# Attempted / (# Repeat + # VBAC Successful)) x 100
5. VBAC Rate = (# Success VBAC / (# Repeat + # VBAC successful)) x 100
6. VBAC Success Rate = VBAC Success / VBAC Attempted x 100
7. # Attempted Trial of Labour = VBAC failed + VBAC Successful

Note:
1. * Excluding out-of-hospital births
2. RHA boundaries are current as of 1996.
3. C/S = Cesarean Section

Table A25 Cesarean Section Rates and Related Maternal Deaths, Alberta, 1985 - 1996

Year	Total Pregnancies[1]	C/Section	C/S Rate	Maternal Deaths[2]	Maternal Death RateC/S[3]	Perinatal & Neonatal Death Rate For C/S Delivery[4]	Maternal Death Rate[5]	Perinatal Death Rate[6]
1985	43,425	7,289	16.8	1	1.4	11.4	0.5	8.8
1986	43,495	7,113	16.4	1*	1.4	12.5	0.2	8.4
1987	41,861	7,072	16.9	0	---	13.0	0.0	8.1
1988	42,040	7,153	17.0	5	7.2	10.9	0.9	8.6
1989	42,819	6,968	16.3	0	---	13.3	1.2	7.6
1990	42,949	6,839	15.9	3	4.4	10.5	0.7	8.3
1991	42,581	6,811	16.0	1	1.5	9.2	1.2	7.3
1992	41,693	6,600	15.9	3	4.5	12.9	1.4	8.2
1993	40,071	6,301	15.7	2	3.2	11.0	0.5	7.5
1994	39,723	6,224	15.7	1	1.6	12.4	0.8	7.7
1995	38,359	6,022	15.7	1	1.7	12.3	0.8	7.6
1996	37,498	6,053	16.1	2	3.3	10.6	1.1	6.7

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Calculations:
1. All pregnancies delivered after 20 weeks gestation or with fetus weighing >or=500 g.
2. Women who died during or within 90 days of having C/S
   (does not include women who were delivered by C/S posthumously for attempted salvage of fetus).
3. C/S Maternal Deaths x 10,000 / Total # of C/S
4. (C/S Perinatal + Late Neonatal Deaths) x 1000 / total # of C/S Pregnancies
5. (Direct + Indirect Maternal Deaths) x 10,000 / Live Births
6. (Stillbirths + Early Neonatal Deaths >or=500 g) x 1000 / Total Births >or= 500 g.

Note: *Death not related to pregnancy.

Table A26 Perineal Laceration and Episiotomy (per 100 women delivered vaginally), Alberta, 1985/86 - 1996/97

Fiscal Year	# of women delivered vaginally	Laceration		Episiotomy for operative delivery		Episiotomy	
		# of cases	Rate	# of cases	Rate	# of cases	Rate
	Number of hospital deliveries						
85/86	**36,452**	8,623	23.7	5,667	15.5	15,785	43.3
86/87	**36,189**	9,201	25.4	5,455	15.1	14,771	40.8
87/88	**34,529**	9,136	26.5	5,016	14.5	11,787	34.1
88/89	**35,201**	10,028	28.5	5,163	14.7	11,761	33.4
89/90	**36,445**	11,783	32.3	5,228	14.3	13,517	37.1
90/91	**36,004**	12,628	35.1	4,985	13.8	12,262	34.1
91/92	**35,742**	13,594	38.0	4,597	12.9	10,741	30.1
92/93	**34,483**	14,868	43.1	4,280	12.4	8,419	24.4
93/94	**33,758**	15,370	45.5	4,105	12.2	7,185	21.3
94/95	**33,278**	15,621	46.9	3,918	11.8	6,087	18.3
95/96	**31,926**	15,565	48.8	3,530	11.1	4,869	15.3
96/97	**30,967**	15,744	50.8	3,204	10.3	4,096	13.2

Source: Hospital Morbidity Files, Alberta Health.

Calculations: Rate = (# of cases) / (# of vaginal deliveries) * 100

Vaginal delivery = (total # of hospital deliveries - # of c-sections).

ICD-9 codes: Laceration: diagnostic codes 664.0 to 664.4

Episiotomy for operative delivery: procedure 72.21 or 72.1 or 72.31 or 72.71

Episiotomy: procedure 73.6

Notes:

1. The categories are not mutually exclusive.
2. Provincial rates include 'out of province' cases.
3. All ICD-9 codes are based on the first three diagnostic codes and the first three procedure codes in the Hospital Morbidity Files.

Table A27 Perineal Laceration and Episiotomy (per 100 women delivered vaginally) by residence RHA, Alberta,1994/95 - 1996/97

RHA	# of women delivered vaginally	Laceration		Episiotomy for operative delivery		Episiotomy	
		# of cases	Rate	# of cases	Rate	# of cases	Rate
1994/1995							
1	**1,918**	970	50.6	137	7.1	179	9.3
2	**1,093**	596	54.5	90	8.2	145	13.3
3	**753**	385	51.1	94	12.5	123	16.3
4	**9,362**	4,732	50.5	1,247	13.3	1,539	16.4
5	**548**	234	42.7	39	7.1	111	20.3
6	**2,198**	847	38.5	132	6.0	415	18.9
7	**901**	339	37.6	124	13.8	236	26.2
8	**979**	470	48.0	102	10.4	132	13.5
9	**450**	207	46.0	47	10.4	96	21.3
10	**9,019**	4,412	48.9	1,276	14.1	1,859	20.6
11	**994**	468	47.1	106	10.7	169	17.0
12	**1,347**	613	45.5	129	9.6	264	19.6
13	**1,119**	432	38.6	79	7.1	311	27.8
14	**258**	116	45.0	26	10.1	66	25.6
15	**521**	182	34.9	36	6.9	105	20.2
16	**412**	63	15.3	118	28.6	132	32.0
17	**452**	187	41.4	25	5.5	54	11.9
out of province	**954**	368	38.6	111	11.6	151	15.8
Province	**33,278**	**15,621**	**46.9**	**3,918**	**11.8**	**6,087**	**18.3**
1995/1996							
1	**1,835**	892	48.6	136	7.4	173	9.4
2	**1,083**	552	51.0	68	6.3	126	11.6
3	**685**	357	52.1	82	12.0	100	14.6
4	**9,249**	4,870	52.7	1,111	12.0	1,295	14.0
5	**583**	235	40.3	62	10.6	88	15.1
6	**2,158**	885	41.0	117	5.4	418	19.4
7	**812**	375	46.2	94	11.6	172	21.2
8	**1,023**	487	47.6	116	11.3	135	13.2
9	**430**	195	45.3	49	11.4	81	18.8
10	**8,415**	4,283	50.9	1,091	13.0	1,397	16.6
11	**961**	469	48.8	88	9.2	126	13.1
12	**1,273**	627	49.3	148	11.6	160	12.6
13	**1,080**	477	44.2	83	7.7	218	20.2
14	**250**	98	39.2	27	10.8	44	17.6
15	**432**	160	37.0	32	7.4	78	18.1
16	**410**	76	18.5	120	29.3	112	27.3
17	**453**	185	40.8	29	6.4	37	8.2
out of province	**794**	342	43.1	77	9.7	109	13.7
Province	**31,926**	**15,565**	**48.8**	**3,530**	**11.1**	**4,869**	**15.3**
1996/1997							
1	**1,764**	823	46.7	100	5.7	162	9.2
2	**991**	523	52.8	67	6.8	87	8.8
3	**678**	353	52.1	54	8.0	84	12.4
4	**9,034**	4,761	52.7	1,106	12.2	1,150	12.7
5	**535**	246	46.0	49	9.2	75	14.0
6	**2,062**	992	48.1	109	5.3	306	14.8
7	**832**	430	51.7	77	9.3	157	18.9
8	**967**	487	50.4	70	7.2	111	11.5
9	**430**	200	46.5	48	11.2	78	18.1
10	**8,027**	4,414	55.0	986	12.3	1,116	13.9
11	**936**	475	50.7	94	10.0	111	11.9
12	**1,216**	592	48.7	125	10.3	138	11.3
13	**1,107**	488	44.1	47	4.2	180	16.3
14	**253**	102	40.3	19	7.5	46	18.2
15	**453**	151	33.3	36	7.9	55	12.1
16	**439**	176	40.1	115	26.2	114	26.0
17	**465**	200	43.0	20	4.3	30	6.5
out of province	**778**	331	42.5	82	10.5	96	12.3
Province	**30,967**	**15,744**	**50.8**	**3,204**	**10.3**	**4,096**	**13.2**

Source: Hospital Morbidity Files, Alberta Health.

Calculations: Rate = (# of cases) / (# of vaginal deliveries) * 100
Vaginal delivery = (total # of hospital deliveries - # of c-sections).

ICD-9 codes: Laceration: diagnostic codes 664.0 to 664.4
Episiotomy for operative delivery: procedure 72.21 or 72.1 or 72.31 or 72.71
Episiotomy: procedure 73.6

Notes:
1. Provincial rates include 'out of province' cases.
2. All ICD-9 codes are based on the first three diagnostic codes and the first three procedure codes in the Hospital Morbidity Files.
3. Regional Health Authority boundaries are current as of April, 1998
4. Regional Health Authority are by residence of mothers.

Table A28 Live Births and Percent Distribution by Place of Birth, Alberta, 1985/86-1996/97

Fiscal Year	Total	Place of Birth			
		Hospital	Home*	Other**	Not Stated
Live Birth					
85/86	**43,330**	43,141	170	19	0
86/87	**43,087**	42,868	193	24	2
87/88	**41,508**	41,354	130	22	2
88/89	**41,984**	41,750	192	39	3
89/90	**43,281**	43,033	181	66	1
90/91	**42,333**	42,113	173	47	0
91/92	**42,436**	42,243	160	32	1
92/93	**40,990**	40,758	195	36	1
93/94	**39,888**	39,665	192	31	0
94/95	**39,399**	39,113	240	46	0
95/96	**38,068**	37,732	283	53	0
96/97	**37,209**	36,863	291	54	1
Percent Distribution					
85/86	**100.00**	99.56	0.39	0.04	0.00
86/87	**100.00**	99.49	0.45	0.06	0.00
87/88	**100.00**	99.63	0.31	0.05	0.00
88/89	**100.00**	99.44	0.46	0.09	0.01
89/90	**100.00**	99.43	0.42	0.15	0.00
90/91	**100.00**	99.48	0.41	0.11	0.00
91/92	**100.00**	99.55	0.38	0.08	0.00
92/93	**100.00**	99.43	0.48	0.09	0.00
93/94	**100.00**	99.44	0.48	0.08	0.00
94/95	**100.00**	99.27	0.61	0.12	0.00
95/96	**100.00**	99.12	0.74	0.14	0.00
96/97	**100.00**	99.07	0.78	0.15	0.00

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.

Note:
1. *Home births include planned and unplanned home births.
2. ** 'Other' includes births En Route, at Nursing Homes, and Other.
3. Calculations are based on Alberta residents only.

Table A29 Planned Home Births, Unplanned Out-of-Hospital Birth and Neonatal Deaths, Alberta, 1985 - 1996

Year	Planned Home Births						Unplanned Out-of-Hospital Births					
	Live Birth	Stillbirth	Early Neonatal Death	Late Neonatal Death	Total Births	*Total Deaths	Live Birth	Stillbirth	Early Neonatal Death	Late Neonatal Death	Total Births	Total Deaths
1985	124	0	1	0	124	1	53	4	3	0	57	7
1986	118	1	1	0	119	2	57	5	4	1	62	10
1987	103	0	0	0	103	0	51	3	2	0	54	5
1988	117	0	0	1	117	1	60	7	3	1	67	11
1989	103	0	0	0	103	0	48	4	1	0	52	5
1990	87	0	0	0	87	0	71	3	1	0	74	4
1991	82	0	0	0	82	0	48	4	1	0	52	5
1992	79	2	1	0	81	3	25	2	2	1	27	5
1993	76	0	1	0	76	1	29	2	1	0	31	3
1994	173	1	0	0	174	1	55	3	2	0	58	5
1995	157	1	1	0	158	2	40	1	0	0	41	1
1996	194	0	2	0	194	2	35	4	4	1	39	9

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.
Note: *Includes delivery in hospital after transfer from planned home delivery.

Table A30 Live Births and Percent Distribution of Live Birth by Primary Birth Attendant, Alberta, 1985/86-1995/96

Fiscal Year	Total	Primary Birth Attendant			
		Physician	Midwife	Other	Not Stated
Live Birth					
85/86	**43,330**	43,259	4	62	5
86/87	**43,087**	42,981	6	96	4
87/88	**41,508**	41,430	49	18	11
88/89	**41,984**	41,922	40	18	4
89/90	**43,281**	43,197	56	26	2
90/91	**42,333**	42,273	37	20	3
91/92	**42,436**	42,377	43	11	5
92/93	**40,990**	40,879	67	38	6
93/94	**39,888**	39,787	66	27	8
94/95	**39,399**	39,243	101	52	3
95/96	**38,068**	37,867	152	43	6
96/97	**37,209**	37,092	81	31	5
Percent Distribution					
85/86	**100.00**	99.84	0.01	0.14	0.01
86/87	**100.00**	99.75	0.01	0.22	0.01
87/88	**100.00**	99.81	0.12	0.04	0.03
88/89	**100.00**	99.85	0.10	0.04	0.01
89/90	**100.00**	99.81	0.13	0.06	0.00
90/91	**100.00**	99.86	0.09	0.05	0.01
91/92	**100.00**	99.86	0.10	0.03	0.01
92/93	**100.00**	99.73	0.16	0.09	0.01
93/94	**100.00**	99.75	0.17	0.07	0.02
94/95	**100.00**	99.60	0.26	0.13	0.01
95/96	**100.00**	99.47	0.40	0.11	0.02
96/97	**100.00**	99.69	0.22	0.08	0.01

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.

Notes: 1. Calculations are based on Alberta residents only.
2. "Other" Includes nurse and other

Table A31 Percent Distribution of Most Responsible Doctors at Hospital Births by Age Group of Mother, 1994/95 - 1996/97

Most Responsible Doctor	Total	Age Groups									
		<15	15-17	18-19	15-19	20-24	25-29	30-34	35-39	40-44	45+
1994/95											
Obstetrician/Gynaecologist	**19,585**	20	457	844	1,301	3,769	6,005	5,642	2,268	319	9
Family Practitioner	**19,333**	16	552	1,127	1,679	4,422	6,556	5,274	1,482	153	3
General Surgeon	**209**	-	3	14	17	49	69	59	15	-	-
Other	**396**	2	17	25	42	85	149	84	31	3	-
Total	**39,523**	**38**	**1,029**	**2,010**	**3,039**	**8,325**	**12,779**	**11,059**	**3,796**	**475**	**12**
	Percent Distribution										
Obstetrician/Gynaecologist	**49.6**	52.6	44.4	42.0	42.8	45.3	47.0	51.0	59.7	67.2	75.0
Family Practitioner	**48.9**	42.1	53.6	56.1	55.2	53.1	51.3	47.7	39.0	32.2	25.0
General Surgeon	**0.5**	0.0	0.3	0.7	0.6	0.6	0.5	0.5	0.4	0.0	0.0
Other	**1.0**	5.3	1.7	1.2	1.4	1.0	1.2	0.8	0.8	0.6	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
1995/96											
Obstetrician/Gynaecologist	**18,943**	12	427	439	838	3,499	5,858	5,652	2,319	328	10
Family Practitioner	**18,583**	17	545	562	1,109	4,288	6,056	4,844	1,578	142	4
General Surgeon	**181**	-	5	5	6	44	63	44	17	2	-
Other	**247**	-	11	11	12	58	89	62	12	3	-
Total	**37,954**	**29**	**988**	**1,017**	**1,965**	**7,889**	**12,066**	**10,602**	**3,926**	**475**	**14**
	Percent Distribution										
Obstetrician/Gynaecologist	**49.9**	41.4	43.2	43.2	42.6	44.4	48.5	53.3	59.1	69.1	71.4
Family Practitioner	**49.0**	58.6	55.2	55.3	56.4	54.4	50.2	45.7	40.2	29.9	28.6
General Surgeon	**0.5**	0.0	0.5	0.5	0.3	0.6	0.5	0.4	0.4	0.4	0.0
Other	**0.7**	0.0	1.1	1.1	0.6	0.7	0.7	0.6	0.3	0.6	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
1996/97											
Obstetrician/Gynaecologist	**18,516**	23	408	431	795	3,297	5,658	5,457	2,476	394	8
Family Practitioner	**18,146**	11	522	533	948	4,188	5,934	4,761	1,581	198	3
General Surgeon	**203**	-	9	9	20	48	68	38	16	3	1
Other	**137**	-	6	6	12	47	35	27	9	1	-
Total	**37,002**	**34**	**945**	**979**	**1,775**	**7,580**	**11,695**	**10,283**	**4,082**	**596**	**12**
	Percent Distribution										
Obstetrician/Gynaecologist	**50.0**	67.6	43.2	44.0	44.8	43.5	48.4	53.1	60.7	66.1	66.7
Family Practitioner	**49.0**	32.4	55.2	54.4	53.4	55.3	50.7	46.3	38.7	33.2	25.0
General Surgeon	**0.5**	0.0	1.0	0.9	1.1	0.6	0.6	0.4	0.4	0.5	8.3
Other	**0.4**	0.0	0.6	0.6	0.7	0.6	0.3	0.3	0.2	0.2	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Hospital Morbidity Files, Alberta Health.
Notes: Most responsible doctor is defined as the attending physician most responsible for the care of the patient and/or for the longest length of stay.

Table A32 Percent Distribution of Most Responsible Doctors at Hospital Births by Residence RHA, 1994/95 - 1996/97

Most Responsible Doctor	Total	Residence RHA																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	97
1994/95																			
Obstetrician/Gynaecologist	19,333	994	381	244	5,200	282	724	368	495	140	8,124	458	522	84	16	122	478	32	669
Family Practitioner	19,585	1,113	763	619	6,086	368	1,811	655	624	396	2,448	682	1,004	1,216	311	464	67	479	479
General Surgeon	209	4	-	7	2	13	68	18	16	3	1	16	43	14	-	-	-	1	3
Other	396	85	59	18	4	2	39	84	-	6	6	15	58	1	-	9	1	-	9
Total	**39,523**	**2,196**	**1,203**	**888**	**11,292**	**665**	**2,642**	**1,125**	**1,135**	**545**	**10,579**	**1,171**	**1,627**	**1,315**	**327**	**595**	**546**	**512**	**1,160**
Percent Distribution																			
Obstetrician/Gynaecologist	48.9	45.3	31.7	27.5	46.1	42.4	27.4	32.7	43.6	25.7	76.8	39.1	32.1	6.4	4.9	20.5	87.5	6.3	57.7
Family Practitioner	49.6	50.7	63.4	69.7	53.9	55.3	68.5	58.2	55.0	72.7	23.1	58.2	61.7	92.5	95.1	78.0	12.3	93.6	41.3
General Surgeon	0.5	0.2	0.0	0.8	0.0	2.0	2.6	1.6	1.4	0.6	0.0	1.4	2.6	1.1	0.0	0.0	0.0	0.2	0.3
Other	1.0	3.9	4.9	2.0	0.0	0.3	1.5	7.5	0.0	1.1	0.1	1.3	3.6	0.1	0.0	1.5	0.2	0.0	0.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
1995/96																			
Obstetrician/Gynaecologist	18,943	990	361	236	5,288	289	648	336	554	128	7,775	415	483	179	21	98	490	45	607
Family Practitioner	18,583	1,069	800	585	5,800	402	1,867	604	620	385	2,224	673	921	1,081	290	411	53	458	340
General Surgeon	181	-	1	5	1	7	51	19	1	1	3	23	67	-	-	-	1	-	1
Other	247	42	32	6	2	3	6	59	-	2	2	16	72	-	-	3	-	-	2
Total	**37,954**	**2,101**	**1,194**	**832**	**11,091**	**701**	**2,572**	**1,018**	**1,175**	**516**	**10,004**	**1,127**	**1,543**	**1,260**	**311**	**512**	**544**	**503**	**950**
Percent Distribution																			
Obstetrician/Gynaecologist	49.9	47.1	30.2	28.4	47.7	41.2	25.2	33.0	47.1	24.8	77.7	36.8	31.3	14.2	6.8	19.1	90.1	8.9	63.9
Family Practitioner	49.0	50.9	67.0	70.3	52.3	57.3	72.6	59.3	52.8	74.6	22.2	59.7	59.7	85.8	93.2	80.3	9.7	91.1	35.8
General Surgeon	0.5	0.0	0.1	0.6	0.0	1.0	2.0	1.9	0.1	0.2	0.0	2.0	4.3	0.0	0.0	0.0	0.2	0.0	0.1
Other	0.7	2.0	2.7	0.7	0.0	0.4	0.2	5.8	0.0	0.4	0.0	1.4	4.7	0.0	0.0	0.6	0.0	0.0	0.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
1996/97																			
Obstetrician/Gynaecologist	18,516	1,020	358	198	5,454	263	616	200	483	109	7,453	426	497	225	18	85	508	30	573
Family Practitioner	18,146	1,037	754	619	5,438	381	1,805	845	633	390	2,122	653	793	1,068	291	423	55	493	346
General Surgeon	203	-	-	17	-	9	67	1	-	4	2	13	80	1	6	-	-	-	3
Other	137	-	1	1	3	-	2	-	-	-	3	3	114	-	-	4	-	2	4
Total	**37,002**	**2,057**	**1,113**	**835**	**10,895**	**653**	**2,490**	**1,046**	**1,116**	**503**	**9,580**	**1,095**	**1,484**	**1,294**	**315**	**512**	**563**	**525**	**926**
Percent Distribution																			
Obstetrician/Gynaecologist	50.0	49.6	32.2	23.7	50.1	40.3	24.7	19.1	43.3	21.7	77.8	38.9	33.5	17.4	5.7	16.6	90.2	5.7	61.9
Family Practitioner	49.0	50.4	67.7	74.1	49.9	58.3	72.5	80.8	56.7	77.5	22.2	59.6	53.4	82.5	92.4	82.6	9.8	93.9	37.4
General Surgeon	0.5	0.0	0.0	2.0	0.0	1.4	2.7	0.1	0.0	0.8	0.0	1.2	5.4	0.1	1.9	0.0	0.0	0.0	0.3
Other	0.4	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	7.7	0.0	0.0	0.8	0.0	0.4	0.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Hospital Morbidity Files, Alberta Health.

Note:
1. Most responsible doctor is defined as the attending physician most responsible for the care of the patient and /or for the longest length of stay
2. Regional Health Authority boundaries are current as of April, 1998
3. Regional Health Authority are by residence of mothers.
4. Code '97' indicates region of residence unknown.

Table A33 Percent Distribution of Most Responsible Doctors at Hospital Births by Facility RHA, 1994/95 - 1996/97

Most Responsible Doctor	Total	Facility RHA																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1994/95																		
Obstetrician/Gynaecologist	**19,333**	1,078	368	22	5,834	87	666	207	-	-	10,337	17	102	64	-	-	551	-
Family Practitioner	**19,585**	1,150	790	504	6,441	306	1,734	646	477	524	2,876	558	1,005	1,279	400	385	71	439
General Surgeon	**209**	2	-	8	1	13	73	19	16	-	3	15	44	15	-	-	-	-
Other	**396**	96	60	14	4	-	39	91	-	-	7	14	61	1	-	8	1	-
Total	**39,523**	**2,326**	**1,218**	**548**	**12,280**	**406**	**2,512**	**963**	**493**	**524**	**13,223**	**604**	**1,212**	**1,359**	**400**	**393**	**623**	**439**
Percent Distribution																		
Obstetrician/Gynaecologist	**48.9**	46.3	30.2	4.0	47.5	21.4	26.5	21.5	0.0	0.0	78.2	2.8	8.4	4.7	0.0	0.0	88.4	0.0
Family Practitioner	**49.6**	49.4	64.9	92.0	52.5	75.4	69.0	67.1	96.8	100.0	21.7	92.4	82.9	94.1	100.0	98.0	11.4	100.0
General Surgeon	**0.5**	0.1	0.0	1.5	0.0	3.2	2.9	2.0	3.2	0.0	0.0	2.5	3.6	1.1	0.0	0.0	0.0	0.0
Other	**1.0**	4.1	4.9	2.6	0.0	0.0	1.6	9.4	0.0	0.0	0.1	2.3	5.0	0.1	0.0	2.0	0.2	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
1995/96																		
Obstetrician/Gynaecologist	**18,943**	1,076	349	31	5,846	90	570	154	-	-	9,956	7	91	215	-	-	558	-
Family Practitioner	**18,583**	1,087	838	487	6,074	317	1,748	608	446	532	2,653	534	922	1,143	347	363	54	430
General Surgeon	**181**	-	-	5	1	4	52	23	1	-	2	23	69	-	-	-	1	-
Other	**247**	44	33	4	3	-	4	62	-	-	2	16	75	-	-	4	-	-
Total	**37,954**	**2,207**	**1,220**	**527**	**11,924**	**411**	**2,374**	**847**	**447**	**532**	**12,613**	**580**	**1,157**	**1,358**	**347**	**367**	**613**	**430**
Percent Distribution																		
Obstetrician/Gynaecologist	**49.9**	48.8	28.6	5.9	49.0	21.9	24.0	18.2	0.0	0.0	78.9	1.2	7.9	15.8	0.0	0.0	91.0	0.0
Family Practitioner	**49.0**	49.3	68.7	92.4	50.9	77.1	73.6	71.8	99.8	100.0	21.0	92.1	79.7	84.2	100.0	98.9	8.8	100.0
General Surgeon	**0.5**	0.0	0.0	0.9	0.0	1.0	2.2	2.7	0.2	0.0	0.0	4.0	6.0	0.0	0.0	0.0	0.2	0.0
Other	**0.7**	2.0	2.7	0.8	0.0	0.0	0.2	7.3	0.0	0.0	0.0	2.8	6.5	0.0	0.0	1.1	0.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
1996/97																		
Obstetrician/Gynaecologist	**18,516**	1,073	350	1	5,977	86	556	-	-	28	9,550	-	89	242	-	-	564	-
Family Practitioner	**18,146**	1,066	782	501	5,702	329	1,711	883	413	503	2,602	508	787	1,102	345	384	52	476
General Surgeon	**203**	-	-	17	-	6	76	1	-	-	2	13	81	-	7	-	-	-
Other	**137**	-	1	1	2	-	2	-	-	-	4	1	119	-	-	5	-	2
Total	**37,002**	**2,139**	**1,133**	**520**	**11,681**	**421**	**2,345**	**884**	**413**	**531**	**12,158**	**522**	**1,076**	**1,344**	**352**	**389**	**616**	**478**
Percent Distribution																		
Obstetrician/Gynaecologist	**50.0**	50.2	30.9	0.2	51.2	20.4	23.7	0.0	0.0	5.3	78.5	0.0	8.3	18.0	0.0	0.0	91.6	0.0
Family Practitioner	**49.0**	49.8	69.0	96.3	48.8	78.1	73.0	99.9	100.0	94.7	21.4	97.3	73.1	82.0	98.0	98.7	8.4	99.6
General Surgeon	**0.5**	0.0	0.0	3.3	0.0	1.4	3.2	0.1	0.0	0.0	0.0	2.5	7.5	0.0	2.0	0.0	0.0	0.0
Other	**0.4**	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	11.1	0.0	0.0	1.3	0.0	0.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Hospital Morbidity Files, Alberta Health.

Notes:
1. Most responsible doctor is defined as the attending physician most responsible for the care of the patient and /or for the longest length of stay
2. Regional Health Authority boundaries are current as of April, 1998
3. Regional Health Authority are by facilities the mothers attended.

Table A34 Live Births by Extreme Birthweight Categories, Alberta, 1985/86-1996/97

Fiscal Year	Birthweight (grams) <500	500-1000	<1000	<1500	<2500	>=4000	>=4500
Live births							
85/86	0	163	163	354	2,340	4,796	712
86/87	0	167	167	378	2,388	4,686	696
87/88	0	145	145	338	2,300	4,549	668
88/89	0	155	155	386	2,458	4,449	596
89/90	15	189	204	417	2,523	4,759	714
90/91	32	140	172	384	2,527	4,692	679
91/92	27	140	167	376	2,474	4,647	663
92/93	29	131	160	354	2,359	4,787	729
93/94	39	130	169	332	2,279	4,603	694
94/95	43	130	173	374	2,213	4,420	625
95/96	45	145	190	358	2,283	4,376	678
96/97	27	140	167	379	2,312	4,269	672
Low birth weight rate (per 100 live births)							
85/86	0.00	0.38	0.38	0.82	5.40	11.07	1.64
86/87	0.00	0.39	0.39	0.88	5.54	10.88	1.62
87/88	0.00	0.35	0.35	0.81	5.54	10.96	1.61
88/89	0.00	0.37	0.37	0.92	5.85	10.60	1.42
89/90	0.03	0.44	0.47	0.96	5.83	11.00	1.65
90/91	0.08	0.33	0.41	0.91	5.97	11.08	1.60
91/92	0.06	0.33	0.39	0.89	5.83	10.95	1.56
92/93	0.07	0.32	0.39	0.86	5.76	11.68	1.78
93/94	0.10	0.33	0.42	0.83	5.71	11.54	1.74
94/95	0.11	0.33	0.44	0.95	5.62	11.22	1.59
95/96	0.12	0.38	0.50	0.94	6.00	11.50	1.78
96/97	0.07	0.38	0.45	1.02	6.21	11.47	1.81

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.
Note: Data are for Alberta residents only.

Table A35 Low Birth Weight (<2,500 grams) Live Births and Low Birth Weight Live Birth Rate by Age Group of Mother, Alberta, 1985/86 -1996/97

Fiscal Year	Total	Age Group <20	20-24	25-29	30-34	35-39	>39
Number of low birth weight live births							
85/86	**2,340**	205	674	876	457	114	14
86/87	**2,388**	223	630	848	524	144	19
87/88	**2,300**	166	595	824	537	165	13
88/89	**2,458**	224	571	879	587	168	29
89/90	**2,523**	235	565	916	581	194	32
90/91	**2,527**	224	569	852	659	204	19
91/92	**2,474**	218	536	804	674	213	29
92/93	**2,359**	204	513	762	639	212	29
93/94	**2,279**	212	508	707	583	243	26
94/95	**2,213**	193	466	654	617	251	32
95/96	**2,283**	197	478	680	586	306	36
96/97	**2,312**	212	515	621	639	284	41
Low birth weight rate (per 100 total live birth)							
85/86	**5.4**	6.5	5.6	5.2	5.1	5.3	5.6
86/87	**5.5**	7.1	5.7	5.1	5.5	6.2	8.6
87/88	**5.5**	5.6	5.8	5.2	5.6	6.6	4.7
88/89	**5.9**	7.2	5.9	5.5	5.8	6.3	7.9
89/90	**5.8**	7.3	5.8	5.7	5.3	6.5	10.2
90/91	**6.0**	6.8	6.1	5.6	6.1	6.1	5.1
91/92	**5.8**	6.4	5.8	5.5	6.0	6.1	7.0
92/93	**5.8**	6.4	5.8	5.5	5.7	6.0	6.7
93/94	**5.7**	6.9	5.9	5.4	5.4	6.6	5.8
94/95	**5.6**	6.5	5.7	5.1	5.6	6.6	6.4
95/96	**6.0**	6.7	6.1	5.6	5.5	7.7	7.3
96/97	**6.2**	7.8	6.8	5.3	6.1	6.8	6.6

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.

Note: 1. Low birth weight refers to birth weight less than 2,500 grams.
2. Data are for Alberta residents only.

Table A36 Low Birth Weight Rate (<2,500 grams) by Residence RHA, Alberta, 1985/86-1996/97

RHA	Fiscal Year											
	85/86	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96/97
Number of low birth weight live births												
1	123	139	117	129	129	150	130	120	136	127	128	122
2	57	56	45	67	60	68	54	63	50	48	74	69
3	40	46	39	51	37	66	57	57	58	49	45	38
4	692	724	705	775	821	789	791	701	717	678	732	769
5	36	23	43	32	35	37	36	34	29	39	35	27
6	154	184	153	153	179	156	162	167	146	155	170	174
7	64	71	79	73	75	68	70	53	62	55	55	57
8	71	63	47	78	61	66	78	67	55	83	59	50
9	41	38	28	38	34	41	42	36	32	43	40	45
10	710	705	744	712	740	751	709	736	636	623	642	650
11	64	73	63	81	65	68	87	79	74	66	60	64
12	111	81	88	91	96	80	88	78	98	74	84	91
13	77	67	59	70	85	78	71	60	75	70	63	52
14	22	13	17	23	12	16	17	14	18	13	25	17
15	24	37	20	26	32	32	28	30	34	39	25	38
16	34	38	37	36	35	33	30	41	34	24	25	28
17	19	29	16	23	27	28	24	23	25	27	21	21
Unknown	1	1	0	0	0	0	0	0	0	0	0	0
Province	**2,340**	**2,388**	**2,300**	**2,458**	**2,523**	**2,527**	**2,474**	**2,359**	**2,279**	**2,213**	**2,283**	**2,312**
Low birth weight rate (per 100 live births)												
1	5.0	5.6	4.9	5.4	5.2	6.2	5.5	5.1	5.9	5.5	5.6	5.5
2	4.3	4.4	3.8	5.4	4.7	5.4	4.5	5.4	4.4	3.9	6.1	6.1
3	4.9	5.2	4.7	6.3	4.2	7.4	6.5	6.4	6.8	5.4	5.4	4.4
4	5.8	6.0	5.9	6.4	6.4	6.4	6.4	5.9	6.2	5.9	6.5	6.9
5	5.0	3.3	5.9	5.0	5.1	5.6	5.1	5.2	4.5	6.0	5.2	4.4
6	5.3	6.1	5.5	5.5	6.4	5.6	5.6	5.8	5.4	5.8	6.5	6.8
7	4.4	5.2	6.0	5.6	5.7	5.5	5.9	4.6	5.3	4.7	5.1	5.2
8	5.6	5.0	4.1	6.7	5.1	5.7	6.3	5.6	5.0	7.0	4.9	4.4
9	5.7	5.2	4.2	5.5	4.4	5.6	5.8	4.9	4.6	6.4	6.5	7.6
10	5.6	5.6	6.2	5.7	5.9	6.0	5.7	6.2	5.5	5.7	6.2	6.5
11	4.6	5.5	5.0	6.3	4.7	5.1	6.4	6.1	5.6	5.4	5.0	5.4
12	5.8	4.5	4.9	5.4	5.3	4.8	5.0	4.6	5.9	4.5	5.4	6.1
13	5.0	4.6	4.3	5.2	6.2	5.8	5.4	4.6	5.9	5.3	4.9	3.9
14	5.4	3.3	4.6	6.6	3.4	4.6	4.9	4.6	5.5	3.9	7.7	5.2
15	4.6	7.2	4.0	5.2	5.9	6.2	5.0	5.8	6.2	6.5	4.7	7.2
16	3.9	5.1	5.4	4.9	5.0	4.3	4.3	6.3	5.4	4.2	4.4	4.8
17	4.2	6.9	3.5	5.3	5.4	6.3	4.5	4.8	5.3	5.1	3.9	3.8
Province	**5.4**	**5.5**	**5.5**	**5.9**	**5.8**	**6.0**	**5.8**	**5.8**	**5.7**	**5.6**	**6.0**	**6.2**

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.

Notes:
1. Low birth weight refers to birth weight less than 2,500 grams.
2. Calculations are based on Alberta residents only.
3. Regional Health Authority boundaries are current as of April, 1998

Table A37 Low Birth Weight by Facility RHAs and Hospitals, Alberta, 1996

Facility RHA	Livebirths	% of Provincial Total	<500g	500-749g	750-999g	1000-1499g	1500-2499g	Livebirths <2500g	Livebirths <2500g (%)
Hospital Birth									
1	2,087	5.5	4	4	4	9	89	110	5.3
2	1,171	3.1	0	2	1	2	46	51	4.4
3	511	1.4	0	0	0	0	5	5	1
4	11,883	31.5	12	30	41	93	692	868	7.3
5	439	1.2	0	0	0	0	6	6	1.4
6	2,392	6.3	3	1	1	5	125	135	5.6
7	842	2.2	1	0	0	0	16	17	2
8	394	1	0	0	0	1	6	7	1.8
9	615	1.6	0	0	0	0	25	25	4.1
10	12,361	32.7	16	31	40	96	790	973	7.9
11	535	1.4	0	0	0	0	11	11	2.1
12	1,119	3	0	0	0	2	21	23	2.1
13	1,343	3.6	1	0	0	1	44	46	3.4
14	359	1	0	0	0	1	12	13	3.6
15	367	1	0	0	0	0	5	5	1.4
16	652	1.7	0	1	0	1	20	22	3.4
17	453	1.2	1	0	0	0	6	7	1.5
Total	37,523	99.4	38	69	87	211	1919	2324	6.2
Out-of-Hospital									
Planned	194	0.5	0	0	0	0	0	0	0
Unplanned	32	0.1	0	0	0	1	0	1	3.1
Total	226	0.6	0	0	0	1	0	1	0.4
Provincial Total	**37,749**	**100**	**38**	**69**	**87**	**212**	**1919**	**2325**	**6.2**

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Notes: 1. Provincial Total from Division of Vital Statistics 1996 = 37,920 - Live births

2. RHA boundaries are current as of 1996.

Table A38 Pre-term Live Births and Pre-term Live Birth Rate by Residence RHA, Alberta, 1985/86-1996/97

RHA	Fiscal Year											
	85/86	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96/97
Pre-term live births												
1	160	169	165	170	159	212	155	152	173	160	146	158
2	85	86	72	81	74	91	64	66	61	63	66	72
3	40	51	42	58	48	67	57	53	60	54	48	44
4	745	797	751	822	876	829	827	757	765	782	801	860
5	44	26	71	36	35	43	46	42	38	45	39	39
6	171	183	156	157	198	185	179	186	177	169	192	196
7	78	72	87	100	87	76	96	62	75	69	89	73
8	68	75	54	91	73	78	72	83	49	109	70	63
9	43	43	33	49	52	49	58	47	35	51	44	41
10	896	901	875	886	856	910	888	942	823	766	793	815
11	71	80	81	100	85	82	100	88	72	79	65	87
12	120	102	103	122	132	106	113	90	110	91	106	114
13	83	68	64	76	83	76	71	69	76	69	77	77
14	31	14	22	25	13	18	24	22	19	19	27	17
15	35	32	24	23	41	41	35	43	37	54	46	48
16	40	47	49	52	33	32	35	39	45	36	37	42
17	30	28	31	35	40	23	33	30	43	27	31	36
Unknown	1											
Province	**2,741**	**2,774**	**2,680**	**2,883**	**2,885**	**2,918**	**2,853**	**2,771**	**2,658**	**2,643**	**2,677**	**2,782**
Pre-term live birth rate (per 100 total live births)												
1	6.5	6.9	7.0	7.2	6.4	8.7	6.5	6.4	7.5	6.9	6.4	7.2
2	6.4	6.7	6.1	6.5	5.8	7.2	5.3	5.7	5.4	5.2	5.4	6.4
3	4.9	5.8	5.1	7.1	5.4	7.6	6.5	6.0	7.0	6.0	5.8	5.1
4	6.2	6.6	6.3	6.7	6.9	6.8	6.7	6.4	6.6	6.8	7.1	7.8
5	6.1	3.8	9.7	5.6	5.1	6.5	6.5	6.5	5.9	6.9	5.8	6.3
6	5.9	6.1	5.6	5.6	7.1	6.5	6.2	6.5	6.5	6.4	7.4	7.7
7	5.3	5.3	6.5	7.6	6.6	6.2	8.1	5.4	6.4	5.9	8.3	6.7
8	5.4	6.0	4.7	7.8	6.1	6.7	5.8	7.0	4.5	9.2	5.9	5.5
9	6.0	5.9	4.9	7.1	6.7	6.5	8.0	6.5	5.0	7.6	7.1	6.9
10	7.1	7.1	7.2	7.1	6.9	7.3	7.2	8.0	7.2	7.0	7.6	8.2
11	5.1	6.1	6.5	7.8	6.2	6.2	7.3	6.8	5.4	6.3	5.4	7.4
12	6.2	5.6	5.8	7.3	7.3	6.3	6.5	5.3	6.6	5.5	6.9	7.6
13	5.4	4.7	4.6	5.6	6.1	5.7	5.4	5.3	6.0	5.2	5.9	5.8
14	7.6	3.6	5.9	7.1	3.7	5.2	6.9	7.3	5.8	5.7	8.3	5.2
15	6.7	6.2	4.9	4.6	7.5	7.9	6.3	8.4	6.6	9.0	8.7	9.1
16	4.6	6.3	7.1	7.1	4.7	4.2	5.1	6.0	7.2	6.4	6.6	7.2
17	6.6	6.4	6.9	8.1	8.0	5.1	6.2	6.3	9.0	5.1	5.7	6.5
Province	**6.3**	**6.4**	**6.5**	**6.9**	**6.7**	**6.9**	**6.7**	**6.8**	**6.7**	**6.7**	**7.0**	**7.5**

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.

Notes:
1. Pre-term refers to a period of gestation less than 37 full weeks
2. Regional Health Authority boundaries are current as of April, 1998
3. Calculations are based on Alberta residents only.

Table A39 Pre-term Live Births and Pre-term Live Births Rate by Age Group of Mother, Alberta, 1985/86 -1996/97

		Age Group										
Fiscal Year	**Total**	< 15	15-17	18-19	15-19	20-24	25-29	30-34	35-39	40-44	> 44	Not Stated
Live births												
85/86	**2,741**	4	98	160	258	772	992	554	141	19	1	0
86/87	**2,774**	4	89	158	247	697	1,006	595	199	24	2	0
87/88	**2,680**	3	62	131	193	691	940	641	185	27	0	0
88/89	**2,883**	5	90	166	256	665	1,049	677	200	31	0	0
89/90	**2,885**	2	100	178	278	644	1,018	691	218	29	5	0
90/91	**2,918**	4	83	162	245	652	971	769	253	24	0	0
91/92	**2,853**	5	102	168	270	607	911	753	263	39	5	0
92/93	**2,771**	8	93	145	238	592	856	774	268	34	0	1
93/94	**2,658**	6	102	134	236	573	821	674	308	40	0	0
94/95	**2,643**	3	78	143	221	541	805	735	303	33	2	0
95/96	**2,677**	3	75	153	228	553	789	713	344	44	3	0
96/97	**2,782**	1	88	152	240	548	808	775	358	52	0	0
Pre-term rate (per 100 total live births)												
85/86	**6.3**	*	9.4	7.7	8.3	6.4	5.9	6.2	6.6	7.8	*	
86/87	**6.4**	*	8.5	7.6	7.9	6.3	6.0	6.2	8.6	11.3	*	
87/88	**6.5**	*	6.4	6.6	6.5	6.8	5.9	6.6	7.4	10.1	*	
88/89	**6.9**	*	9.1	8.0	8.3	6.9	6.5	6.7	7.5	8.7	*	
89/90	**6.7**	*	9.7	8.3	8.7	6.7	6.3	6.3	7.3	9.6	*	
90/91	**6.9**	*	7.9	7.3	7.5	7.0	6.4	7.1	7.6	6.6	*	
91/92	**6.7**	*	8.9	7.6	8.1	6.6	6.2	6.7	7.6	9.7	*	
92/93	**6.8**	*	8.3	7.1	7.5	6.7	6.2	6.9	7.5	8.1	*	
93/94	**6.7**	*	9.2	7.0	7.8	6.7	6.2	6.2	8.4	9.2	*	
94/95	**6.7**	*	7.9	7.3	7.5	6.6	6.3	6.6	8.0	6.8	*	
95/96	**7.0**	*	7.6	7.9	7.8	7.1	6.5	6.7	8.6	9.2	*	
96/97	**7.5**	*	9.5	8.7	9.0	7.3	6.9	7.4	8.6	8.6	*	

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.

Notes:
1. Pre-term refers to a period of gestation less than 37 full weeks
2. Regional Health Authority boundaries are current as of April, 1998
3. Calculations are based on Alberta residents only.
4. * indicates unreliable rates due to small numbers.

Table A40 Live Births, Stillbirths, and Percent Distribution of Live Birth and Stillbirths by Week of Gestation, Alberta, 1985/86-1996/97

		Week of Gestation									
Fiscal Year	Total	<21	21-23	24-26	27-29	30-32	33-35	36-38	39-41	>41	Not Stated
Live births											
85/86	**43,330**	7	44	85	135	278	998	8,817	30,818	2,148	0
86/87	**43,087**	5	38	96	131	298	1,009	8,980	30,710	1,819	1
87/88	**41,506**	6	31	73	140	270	983	8,855	29,540	1,607	1
88/89	**41,984**	4	27	108	140	299	1,078	9,494	29,395	1,439	0
89/90	**43,281**	5	42	112	153	310	1,053	9,400	30,622	1,583	1
90/91	**42,333**	7	47	85	138	306	1,121	9,377	29,952	1,300	0
91/92	**42,436**	11	36	86	135	302	1,069	9,563	29,913	1,319	2
92/93	**40,990**	4	48	76	142	269	1,054	9,342	28,813	1,242	0
93/94	**39,888**	11	52	65	111	283	999	8,608	28,443	1,316	0
94/95	**39,399**	10	38	92	146	277	1,014	8,823	28,020	979	0
95/96	**38,068**	14	66	76	116	275	1,013	8,700	26,924	884	0
96/97	**37,209**	5	34	90	137	310	1,080	8,767	26,075	711	0
Percent distribution of live births											
85/86	**100.00**	0.02	0.10	0.20	0.31	0.64	2.30	20.35	71.12	4.96	0.00
86/87	**100.00**	0.01	0.09	0.22	0.30	0.69	2.34	20.84	71.27	4.22	0.00
87/88	**100.00**	0.01	0.07	0.18	0.34	0.65	2.37	21.33	71.17	3.87	0.00
88/89	**100.00**	0.01	0.06	0.26	0.33	0.71	2.57	22.61	70.01	3.43	0.00
89/90	**100.00**	0.01	0.10	0.26	0.35	0.72	2.43	21.72	70.75	3.66	0.00
90/91	**100.00**	0.02	0.11	0.20	0.33	0.72	2.65	22.15	70.75	3.07	0.00
91/92	**100.00**	0.03	0.08	0.20	0.32	0.71	2.52	22.54	70.49	3.11	0.00
92/93	**100.00**	0.01	0.12	0.19	0.35	0.66	2.57	22.79	70.29	3.03	0.00
93/94	**100.00**	0.03	0.13	0.16	0.28	0.71	2.50	21.58	71.31	3.30	0.00
94/95	**100.00**	0.03	0.10	0.23	0.37	0.70	2.57	22.39	71.12	2.48	0.00
95/96	**100.00**	0.04	0.17	0.20	0.30	0.72	2.66	22.85	70.73	2.32	0.00
96/97	**100.00**	0.01	0.09	0.24	0.37	0.83	2.90	23.56	70.08	1.91	0.00
Stillbirths											
85/86	**237**	12	32	26	11	28	30	47	43	8	0
86/87	**284**	10	40	34	23	28	33	59	45	11	1
87/88	**255**	16	38	35	31	24	21	50	35	5	0
88/89	**301**	13	70	38	33	17	25	55	47	2	1
89/90	**248**	6	40	28	29	32	28	49	32	4	0
90/91	**315**	16	70	44	26	36	40	41	37	5	0
91/92	**295**	21	72	34	22	25	26	51	38	5	1
92/93	**267**	18	49	31	23	26	33	43	39	4	1
93/94	**258**	12	50	35	20	22	24	47	44	3	1
94/95	**287**	16	66	33	34	22	29	33	50	4	0
95/96	**249**	21	62	22	16	24	35	33	34	2	0
96/97	**230**	21	58	17	23	19	16	40	34	2	
Percent distribution of stillbirths											
85/86	**100.00**	5.1	13.5	11.0	4.6	11.8	12.7	19.8	18.1	3.4	0.0
86/87	**100.00**	3.5	14.1	12.0	8.1	9.9	11.6	20.8	15.8	3.9	0.4
87/88	**100.00**	6.3	14.9	13.7	12.2	9.4	8.2	19.6	13.7	2.0	0.0
88/89	**100.00**	4.3	23.3	12.6	11.0	5.6	8.3	18.3	15.6	0.7	0.3
89/90	**100.00**	2.4	16.1	11.3	11.7	12.9	11.3	19.8	12.9	1.6	0.0
90/91	**100.00**	5.1	22.2	14.0	8.3	11.4	12.7	13.0	11.7	1.6	0.0
91/92	**100.00**	7.1	24.4	11.5	7.5	8.5	8.8	17.3	12.9	1.7	0.3
92/93	**100.00**	6.7	18.4	11.6	8.6	9.7	12.4	16.1	14.6	1.5	0.4
93/94	**100.00**	4.7	19.4	13.6	7.8	8.5	9.3	18.2	17.1	1.2	0.4
94/95	**100.00**	5.6	23.0	11.5	11.8	7.7	10.1	11.5	17.4	1.4	0.0
95/96	**100.00**	8.4	24.9	8.8	6.4	9.6	14.1	13.3	13.7	0.8	0.0
96/97	**100.00**	9.1	25.2	7.4	10.0	8.3	7.0	17.4	14.8	0.9	0.0

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.
Note: Calculations are based on Alberta residents only.

Table A41 Low Birth Weight Rate and Pre-term Birth Rate of Multiple Live Birth, Alberta, 1985/86 - 1996/97

Fiscal Year	Number of Live Multiple Births	Multiple Birth Rate per 100 Live Births	Stillbirth		<2500 grams		Pre-term	
			Cases	Percent	Cases	Percent	Cases	Percent
85/86	**792**	**1.8**	10	1.3	380	48.0	352	44.4
86/87	**852**	**2.0**	22	2.6	410	48.1	398	46.7
87/88	**852**	**2.1**	24	2.8	426	50.0	398	46.7
88/89	**846**	**2.0**	26	3.1	447	52.8	449	53.1
89/90	**928**	**2.1**	13	1.4	476	51.3	453	48.8
90/91	**874**	**2.1**	36	4.1	442	50.6	438	50.1
91/92	**897**	**2.1**	16	1.8	488	54.4	470	52.4
92/93	**886**	**2.2**	17	1.9	441	49.8	395	44.6
93/94	**888**	**2.2**	23	2.6	406	45.7	403	45.4
94/95	**870**	**2.2**	23	2.6	433	49.8	419	48.2
95/96	**913**	**2.4**	24	2.6	487	53.3	515	56.4
96/97	**918**	**2.5**	16	1.7	515	56.1	527	57.4

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.

Notes:
1. Low birth weight refers to birth weight less than 2,500 grams.
2. Pre-term refers to a period of gestation less than 37 full weeks.
3. Multiple birth refers to birth in which more than one infant is born.
4. Calculations are based on Alberta residents only.

Table A42 Multiple Pregnancies, Multiple Births and Perinatal Deaths of Multiple Births, Alberta, 1982 -1996

Year	Total Pregnancies	Multiple Pregnancies (MP)				Multiple Births (MB)			Perinatal Deaths of Multiple Births	
		Twins	Triplets	Quads	MP Rate	Total Births	Total MB	MB Rate	Cases	Rate
1982	**44,601**	432	11	2	1.00	45,300	905	2.0	52	57.4
1983	**45,023**	419	5	0	0.90	45,770	853	1.9	41	48.1
1984	**43,546**	416	3	0	1.00	44,235	841	1.9	49	58.3
1985	**43,425**	429	5	0	1.00	43,945	873	2.0	40	45.8
1986	**43,495**	407	7	0	0.95	43,853	835	1.9	49	58.7
1987	**41,861**	448	4	0	1.10	42,356	908	2.1	48	52.9
1988	**42,040**	401	6	2	0.97	42,459	828	2.0	53	64.0
1989	**42,819**	463	7	0	1.10	43,293	947	2.2	49	51.7
1990	**42,949**	446	9	0	1.06	43,398	919	2.1	66	71.8
1991	**42,581**	464	6	0	1.10	43,092	946	2.2	46	48.6
1992	**41,693**	474	16	0	1.20	42,203	996*	2.4	52	52.2
1993	**40,075**	442	11	1	1.10	40,531	921	2.3	48	52.1
1994	**39,723**	456	8	0	1.20	40,190	936	2.3	44	47.0
1995	**38,359**	459	10	0	1.20	38,837	948	2.4	56	59.0
1996	**37,524**	456	10	0	1.20	37,911	942	2.5	47	50.5

Sources: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.
Calculations: Perinatal Death Rate of Multiple Births = (Perinatal Deaths of Multiple Births (All weights) x1000)/Total # of Multiple Birth
Note: * Includes fetal deaths prior to 20 weeks of gestation

Table A43 Multiple Pregnancies, Multiple Births and Perinatal Deaths of Multiple Births by Facility RHAs and Hospitals, Alberta, 1996

Facility RHA	Total Pregnancies	% of Multiple	Multiple Pregnancies			Babies			Perinatal Deaths Multiple Births	
			Twins	Triplets	Other	Twins	Triplets	Other	Cases	Rate
1	2,075	1.2	24	0	0	48	0	0	6	125
2	1,168	0.7	8	0	0	16	0	0	1	62.5
3	516	0	-	0	0	-	0	0	0	0
4	11,783	1.6	188	4	0	365	12	0	18	47.7
5	436	0.7	3	0	0	6	0	0	0	0
6	2,372	1.3	32	0	0	64	0	0	3	46.9
7	843	0.1	1	0	0	2	0	0	0	0
8	395	0.3	1	0	0	2	0	0	0	0
9	616	0.2	1	0	0	2	0	0	0	0
10	12,257	1.5	182	6	0	363	18	0	19	49.9
11	535	0.2	1	0	0	2	0	0	1	500
12	1,120	0.1	1	0	0	2	0	0	0	0
13	1,344	0.7	9	0	0	18	0	0	2	111.1
14	360	0.3	1	0	0	2	0	0	0	0
15	368	0	-	0	0	-	0	0	0	0
16	652	0.5	3	0	0	6	0	0	0	0
17	456	0.2	1	0	0	2	0	0	0	0
Total Hospital Birth	37,296	1.2	456	10	0	900	30	0	50	53.8
Out-of-Hospital										
Planned	194	0	-	0	0	-	0	0	0	0
Unplanned	34	0	-	0	0	-	0	0	0	0
TOTAL	228	0	-	0	0	-	0	0	0	0
Provincial Total	**37,524**	**1.2**	**456**	**10**	**0**	**900**	**30**	**0**	**50**	**53.8**

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.
Calculations: Perinatal Death Rate (Multiple Births) = (# of Deaths (Multiple Births) / Total # of Multiple Births) x 1000
Notes:
1. * Excludes fetal death of one or more multiples prior to 20 week. gestation.
2. RHA boundaries are current as of 1996.

Table A44 Growth Patterns Of Singleton And Multiple Deaths - 1996

Birth Weight %	Singleton				Multiple			
	Perinatal		Neonatal		Perinatal		Neonatal	
	PND	% of Total PND	NND	% of Total NND	PND	% of Total PND	NND	% of Total NND
<5th Percentile	57	15.5	13	8.5	8	2.2	3	2
5-10th Percentile	34	9.3	14	9.2	0	0	0	0
25-50th Percentil	83	22.6	45	29.4	20	5.4	12	7.8
75-90th Percentil	73	19.9	36	23.5	6	1.6	4	2.6
>90th Percentile	14	3.8	7	4.6	1	0.3	0	0

Source: Based on mortality case reviews of hospital records by the Reproductive Care Committee.

Notes:
1. Total Perinatal Deaths = 374
2. Total Neonatal Deaths = 158
3. Data excludes all deaths <22 weeks gestation as birth weight percentiles not determined for <22 weeks of gestation.
4. Weight percentiles determined from
   Arbuckle, T; Wilkins, R; and Sherman, G. (1993).
   Birthweight percentiles by gestational age in Canada 1986 - 1988.
   Obstetrics & Gynecology, 81(1), 39 - 48.
5. PND = Perinatal deaths
6. NND = Neonatal deaths

Table A45 Perinatal Mortality Rates, Provinces and Canada, 1982 - 1996

Year	Canada	Alberta	B.C.	Sask.	Man.	Ont.	Quebec	N.B.	N.S.	P.E.I.	Nfld.	Y.T.	N.W.T.
1982	**10.1**	10.3	10.4	10.9	9	10.2	9.3	11.2	9.9	11.4	11.6	20.8	18.2
1983	**9.5**	8.3	9.1	10.5	11.1	9.7	8.8	10.8	11.1	12.5	11.7	16.2	12
1984	**8.7**	8.8	8.8	9.6	9.7	8.5	8.4	8.9	9.5	10.2	9.4	1.9	10.3
1985	**8.7**	8	9.1	9.1	9.7	8.7	8.1	8.9	9	9.9	10.8	N/A	N/A
1986	**8.4**	7.9	8.5	8.1	9	8.4	8	10.1	9.9	7.2	9.1	14.4	13.8
1987	**8**	7.9	8.5	8.1	9	8.1	8.1	7.3	9.7	10.2	7.3	14.4	13.8
1988	**7.6**	7.6	8.3	7.8	7.7	7.9	6.8	7.1	6.6	10.1	8.7	5.8	12.9
1989	**7.9**	7.3	8.1	7.7	7.6	8.1	7.4	7.7	9.3	5.7	9.5	4.2	18.9
1990	**7.7**	7.9	8	7.1	8.4	7.8	6.9	9.1	7.7	5.9	10.5	3.6	10
1991	**6.8**	6.6	6.7	8	7.4	6.7	6.7	5.7	6.5	9.5	8.9	10.5	12.2
1992	**7.1**	7.8	6.9	7	7.6	7.4	6.1	8.2	8.4	5.9	8.4	5.6	8.3
1993	**7.3**	7.3	6.7	8.1	8.3	7.6	6.6	7.6	8.4	5.1	8.7	11.8	8.3
1994	**7.2**	7.5	7.4	8.9	7.5	7.3	6.1	7.4	7	9.3	7.9	4.5	14.4
1995	**7**	7.8	6.9	8.6	7.8	7.2	6.2	5.2	6.6	9.1	8.3	8.5	8
1996	**6.7**	7	6.2	7.1	7.6	7.2	5.7	6.2	6.2	7.7	6.9	4.5	7.6

Source: Statistics Canada (1997). Births and Deaths, 1995, Catalogue 84-210-XPB Annual, Ottawa, Canada.
Calculations: (Early-neonatal Deaths + Stillbirths(28 weeks+))*1000 / (Live Births + Stillbirth (28weeks+))
Note: * Stillbirths 28 weeks gestation and over

Table A46 Perinatal Mortality Rates (PMR) (With Different Categories Of Death Excluded) by Facility RHA and Hospital, Alberta, 1996

Facility RHA	TOTAL BIRTHS >or=500g[1]	PERINATAL DEATHS >or=500g		ANTEPARTUM DEATHS EXCLUDED[2]		MAJOR ANOMALIES EXCLUDED[3]		PMR>or=1500gm[4]		PMR>or=1500gm EXCLUDING AP & MAJOR ANOMALIES[5]		PMR>or= 2500gm[6]		PMR>or= 2500gm EXCLUDING AP & MAJOR ANOMALIES[7]	
		Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Hospital Births															
1	2,092	14	6.7	7	3.4	10	4.8	8	3.9	0	0.0	4	2.0	0	0.0
2	1,175	6	5.1	2	1.7	5	4.3	3	2.6	0	0.0	1	0.9	0	0.0
3	514	5	9.7	5	9.9	5	9.9	3	3.9	3	3.9	2	3.9	2	3.9
4	11,929	88	7.4	48	4.1	65	5.5	43	3.7	7	0.6	25	2.3	5	0.5
5	439	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	2,396	10	4.2	4	1.7	8	3.4	6	2.5	2	0.8	4	1.8	1	0.4
7	843	3	3.6	2	2.4	3	3.6	3	3.6	2	2.4	3	3.6	2	2.4
8	396	2	5.1	1	2.5	1	2.5	2	5.1	0	0.0	0	0.0	0	0.0
9	616	2	3.2	1	1.6	1	1.6	2	3.2	0	0.0	1	1.7	0	0.0
10	12,408	104	8.4	57	4.7	71	5.8	53	4.3	8	0.7	37	3.2	6	0.5
11	536	1	1.9	0	0.0	1	1.9	1	1.9	0	0.0	1	1.9	0	0.0
12	1,121	2	1.8	0	0.0	2	1.8	1	0.9	0	0.0	1	0.9	0	0.0
13	1,344	7	5.2	4	3.0	5	3.8	6	4.5	3	2.2	2	1.5	2	1.5
14	361	4	11.1	2	5.6	3	8.5	4	11.0	1	2.8	4	11.5	1	2.9
15	367	2	5.5	2	5.5	2	5.5	2	5.4	2	5.5	2	5.5	2	5.5
16	655	3	4.6	2	3.1	2	3.1	2	3.1	0	0.0	0	0.0	0	0.0
17	457	6	13.1	2	4.5	4	8.9	3	6.6	1	2.2	1	2.3	1	2.3
Total	37,649	259	6.9	139	3.7	188	5.1	142	3.8	29	0.8	88	2.5	22	0.6
Out-of-Hospital															
Planned	194	2	10.3	2	10.5	2	10.5	2	10.3	2	10.3	2	10.3	2	10.3
Unplanned	37	5	135.1	3	103.4	3	103.4	1	0.0	1	0.0	1	0.0	1	0.0
Total	231	7	30.3	5	22.8	5	22.8	3	8.8	3	8.8	3	8.8	3	8.8
Provincial Total	**37,880**	**266**	**7.0**	**144**	**3.8**	**193**	**5.2**	**145**	**3.9**	**32**	**0.9**	**91**	**2.6**	**25**	**0.7**

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Calculations: 1. Total births as reported by individual hospitals.

2. PMR >or=500 (AP deaths excluded) = (Perinatal Deaths >or=500 - Antepartum Deaths >or=500) x 1000) / (Total Births >or=500 - Antepartum Deaths >or=500)

3. PMR >or=500 (excluding major anomalies) = ((Perinatal Deaths >or=500 - Major Anomalies >or=500) x 1000) / (Total Births >or=500 - Major Anomalies >or=500)

4. PMR >or=1500 = Perinatal Deaths >or=1500 / Total Births >or=1500

5. PMR >or=1500 excluding AP and congenital anomalies

6. PMR >or=2500 = Perinatal Deaths >or=2500 / Total Birth >or=2500

7. PMR >or=2500 excluding AP & major anomalies

Note: RHA boundaries are current as of 1996.

Table A47 Stillbirths and Stillbirth Rates by Age Group of Mother, Alberta, 1985/86-1996/97

Fiscal Year	Total	Age Group									
		< 15	15-17	18-19	15-19	20-24	25-29	30-34	35-39	40-44	> 44
Stillbirths											
85/86	**237**	2	8	13	21	55	87	51	17	4	0
86/87	**284**	1	13	16	29	71	88	74	19	2	0
87/88	**255**	0	9	29	38	56	87	53	21	0	0
88/89	**301**	1	14	17	31	67	119	64	16	3	0
89/90	**248**	0	6	16	22	49	80	64	30	3	0
90/91	**315**	1	10	11	21	85	93	82	26	7	0
91/92	**295**	0	13	18	31	78	81	64	36	5	0
92/93	**267**	1	10	14	24	61	86	66	28	1	0
93/94	**258**	0	10	17	27	57	68	68	33	5	0
94/95	**287**	0	12	11	23	55	79	83	41	6	0
95/96	**249**	0	6	25	31	37	69	68	37	7	0
96/97	**230**	0	3	14	17	49	70	58	31	5	0
Stillbirths (per 100,000 women in each age group)											
	Rate per 100,000 women aged 15 - 49										
85/86	**35.0**	*	*	34.0	22.5	46.4	66.1	44.6	18.0	*	0.0
86/87	**41.7**	*	23.8	42.2	31.4	62.9	67.7	62.8	19.9	*	0.0
87/88	**37.3**	*	*	75.8	41.5	52.3	67.8	44.1	21.6	*	0.0
88/89	**43.6**	*	26.9	44.0	34.2	65.0	93.7	52.0	15.8	*	0.0
89/90	**35.2**	*	*	42.2	24.4	48.4	63.6	50.6	28.1	*	0.0
90/91	**44.1**	*	18.8	30.0	23.3	84.3	76.3	63.6	23.2	*	0.0
91/92	**40.7**	*	23.9	49.8	34.3	78.2	68.7	49.1	30.7	*	0.0
92/93	**36.6**	*	18.3	38.9	26.4	62.3	76.3	50.3	23.1	*	0.0
93/94	**35.0**	*	18.1	45.9	29.2	59.0	62.8	52.1	26.5	*	0.0
94/95	**38.8**	*	21.3	29.5	24.6	58.1	76.3	65.1	32.4	*	0.0
95/96	**33.4**	*	10.4	66.9	32.7	39.6	67.5	55.5	28.8	*	0.0
96/97	**30.5**	*	5.0	36.9	17.4	51.7	68.6	48.8	23.8	*	0.0
Stillbirths per 1,000 total births											
85/86	**5.4**	*	*	6.2	6.7	4.6	5.2	5.6	7.8	*	0.0
86/87	**6.5**	*	12.2	7.7	9.2	6.4	5.2	7.7	8.2	*	0.0
87/88	**6.1**	*	*	14.3	12.6	5.5	5.4	5.5	8.3	*	0.0
88/89	**7.1**	*	13.9	8.1	10.0	6.9	7.4	6.3	5.9	*	0.0
89/90	**5.7**	*	*	7.4	6.9	5.0	4.9	5.8	10.0	*	0.0
90/91	**7.4**	*	9.4	4.9	6.4	9.1	6.1	7.5	7.7	*	0.0
91/92	**6.9**	*	11.2	8.1	9.2	8.3	5.5	5.7	10.3	*	0.0
92/93	**6.5**	*	8.8	6.8	7.5	6.9	6.2	5.8	7.8	*	0.0
93/94	**6.4**	*	8.9	8.8	8.9	6.6	5.1	6.2	8.9	*	0.0
94/95	**7.2**	*	12.0	5.6	7.8	6.6	6.2	7.4	10.6	*	0.0
95/96	**6.5**	*	*	12.8	10.5	4.7	5.7	6.3	9.2	*	0.0
96/97	**6.1**	*	*	7.9	6.3	6.4	5.9	5.5	7.4	*	0.0

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.

Notes:
1. * indicates unreliable rates due to small numbers.
2. Calculations are based on Alberta residents only.

Table A48 Stillbirths by Residence RHA, Alberta, 1985/86-1996/97

RHA	Fiscal Year											
	85/86	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96/97
1	17	21	18	17	11	13	23	22	17	19	15	16
2	2	8	10	7	10	8	6	5	7	9	10	9
3	4	7	6	5	3	3	4	2	4	6	9	6
4	65	86	57	87	62	83	77	74	75	79	75	63
5	3	5	8	3	8	6	7	7	7	5	2	
6	16	16	10	15	10	23	27	17	17	24	20	13
7	7	14	9	5	14	3	7	8	5	12	6	6
8	5	6	7	6	11	7	6	10	6	3	7	8
9	6	8	4	7	4	9	6	5	3	3	4	3
10	70	69	72	90	70	99	87	70	76	71	53	62
11	11	8	10	10	6	11	10	8	10	13	9	5
12	12	7	14	20	8	15	14	11	7	12	9	13
13	7	6	12	12	14	15	7	13	5	17	16	9
14	1	7	5	1	4	4	2	4	1	1		2
15	4	6	4	9	2	6	6	3	6	5	2	7
16	3	6	4	5	5	6	1	4	5	3	5	3
17	4	4	5	2	6	4	5	4	7	5	7	5
Province	**237**	**284**	**255**	**301**	**248**	**315**	**295**	**267**	**258**	**287**	**249**	**230**

Source: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.

Notes:
1. Regional Health Authority boundaries are current as of April, 1998
2. Stillbirths are for Alberta residents only.

Table A49 Stillbirths and Neonatal Deaths Due to Congenital Anomalies, Alberta, 1996

Anomalies Classification	Stillbirth			Early-Neonatal Deaths			Late-Neonatal Deaths			Totals		
	<500	500-999	>or=1000	<500	500-999	>or=1000	<500	500-999	>or=1000	SB	END	LND
Neural Tube Defects	4	1	1	1	0	1	0	0	0	6	2	0
Other Central Nervous System	0	0	3	1	1	3	0	0	2	3	5	2
Heart	2	1	2	1	0	9	0	2	5	5	10	7
Circulatory System	0	0	0	0	0	0	0	0	0	0	0	0
Respiratory System	0	0	1	0	0	2	0	0	0	1	2	0
Gastrointestinal	0	0	1	1	0	0	0	0	0	1	1	0
Genital Organs	0	0	0	0	0	0	0	0	0	0	0	0
Urinary System	2	4	3	0	0	3	0	0	0	9	3	0
Musculoskeletal Deformity	1	1	5	1	0	0	0	0	0	7	1	0
Integument	1	0	1	0	0	0	0	0	0	2	0	0
Chromosomal	4	1	2	1	1	5	0	1	0	7	7	1
Other/Unspecified Congenital	0	2	8	0	0	6	0	0	0	10	6	0
TOTALS	**14**	**10**	**27**	**6**	**2**	**29**	**0**	**3**	**7**	**51**	**37**	**10**

Source: Based on mortality case reviews of hospital records by the Reproductive Care Committee.

Notes:
1. Total number of deaths due to congenital anomalies: 98
2. SB: Stillbirth
3. END: Early-neonatal Deaths
4. LND: Late-neonatal Deaths

Table A50 Stillbirth by Weight Distribution and Time of Death

Weight (grams)	AP				IP				Total Stillbirth	Total Livebirth	Ratio: Stillbirths /Livebirths
	AP1	AP2	AP Total	Corrected	IP1	IP2	IP Total	Corrected			
<500	30	2	32	30	0	39	39	28	71	35	2,029
500 - 749	14	1	15	12	0	16	16	12	31	67	463
750 - 999	11	0	11	8	0	3	3	1	14	82	171
1000 - 1249	9	1	10	7	0	2	2	0	12	88	136
1250 - 1499	7	0	7	6	0	0	0	0	7	116	60
1500 - 1749	5	0	5	4	1	1	2	2	7	160	44
1750 - 1999	11	0	11	7	0	2	2	0	13	253	51
2000 - 2499	12	2	14	12	0	6	6	0	20	1,480	14
2500 - 3999	45	1	46	42	1	8	9	5	55	30,829	2
>or=4000	6	1	7	6	0	0	0	0	7	4,364	2
TOTAL	**150**	**8**	**158**	**134**	**2**	**77**	**79**	**48**	**237**	**37,474**	**6**

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Notes:

1. AP1 - Antepartum death prior to hospital admission
2. AP2 - Antepartum death in hospital
3. IP1 - Intrapartum death prior to hospital admission
4. IP2 - Intrapartum death in hospital
5. Ratio: Stillbirths/Livebirths = (AP + IP x 1000) / Livebirths
6. Corrected - major anomalies excluded
7. # Livebirths for weight from Alberta Health (1996) Vital Statistics Annual Review
8. Four stillbirths with weight not stated are excluded.

Table A51 Stillbirths and Neonatal Mortality By Maternal Age (Corrected for Congenital Anomalies), Alberta, 1996

Maternal Age	# of Live births for MA	% of Total Births	SB	END	LND	PMR	PMR Corrected	NMR	NMR Corrected	*Death Rate	Death Rate Corrected
<or=17	1,299	3.3	3	8	2	8.4	5.4	7.7	5.4	10	6.1
18-29	22,476	57.4	130	66	17	8.7	6.7	3.7	2.5	9.4	6.9
30-39	14,769	37.8	101	57	5	10.6	8	4.2	3	11	8.1
>or=35	7,453	19	43	17	3	8	6.2	2.7	2	8.4	6.4
>or=40	581	1.5	7	2	1	15.3	12	5.2	5.2	17	13.6

Sources: Number of live births for maternal age from Vital Statistics Annual Review, 1996.
Stillbirths as reported to Reproductive Care Committee by the hospitals.

Notes:
1. * Death Rate = ((Stillbirths + Neonatal Deaths) / # of Total Births in Each Age Group) x 1000
2. Total Births = Livebirths + Stillbirths = 39,366
3. SB: Stillbirth
4. END: Early-neonatal Deaths
5. LND: Late-neonatal Deaths
6. PMR: Perinatal Mortality Rate
7. NMR: Neonatal Mortality Rate

Table A52 Perinatal and Corrected (for Major Anomalies) Perinatal Mortality Rates by Facility RHAs and Hospitals, Alberta, 1996

Facility RHA	Total Births	Total Births		Stillbirths				Early-Neonatal Deaths				Perinatal Mortality Rate		Corrected Perinatal Mortality Rate	
						Major Anomalies				Major Anomalies					
		>or=500g	>or=1000g	>or=500g	>or=1000g	>or=500g	>or=1000g	>or=500g	>or=1000g	>or=500g	>or=1000g	>or=500g	>or=1000g	>or=500g	>or=1000g
Hospital Births															
1	2,099	2,092	2,083	9	8	3	3	5	1	1	1	6.7	4.3	4.8	2.4
2	1,176	1,175	1,172	4	4	1	1	2	0	0	0	5.1	3.4	4.3	2.6
3	516	513	512	3	2	0	0	2	1	0	0	9.7	5.9	9.7	5.9
4	11,969	11,929	11,839	58	39	15	11	30	14	8	7	7.4	4.5	5.4	3
5	439	439	439	0	0	0	0	0	0	0	0	0	0	0	0
6	2,404	2,396	2,393	7	6	0	0	3	2	2	1	4.2	3.3	3.3	2.9
7	844	843	843	2	2	0	0	1	1	0	0	3.6	3.6	3.6	3.6
8	396	396	396	2	2	1	1	0	0	0	1	5.1	5.1	2.5	0
9	617	616	616	1	1	0	0	1	1	1	0	3.2	3.2	1.6	3.2
10	12,451	12,408	12,319	63	45	16	10	41	23	18	17	8.4	5.5	5.6	3.3
11	536	536	536	1	1	0	0	0	0	0	0	1.9	1.9	1.9	1.9
12	1,121	1,121	1,121	2	2	0	0	0	0	0	0	1.8	1.8	1.8	1.8
13	1,353	1,344	1,344	3	3	1	1	4	4	1	1	5.2	5.2	3.7	3.7
14	361	361	361	2	2	0	0	2	2	1	1	11.1	11.1	8.3	8.3
15	368	367	367	0	0	0	0	2	2	0	0	5.5	5.5	5.5	5.5
16	655	655	653	3	2	1	1	0	0	0	0	4.6	3.1	3.1	1.5
17	457	457	454	4	2	2	1	2	1	0	0	13.1	6.6	8.8	4.4
Total	37,762	37,648	37,448	164	121	40	29	95	52	32	29	6.9	4.6	5	3.1
Out-of-Hospital															
Planned	194	194	194	0	0	0	0	2	2	0	0	10.3	10.3	10.3	10.3
Unplanned	39	37	34	3	1	0	0	3	2	0	0	162.2	88.2	162.2	88.2
Total	233	231	228	3	1	0	0	5	4	0	0	34.6	21.9	34.6	21.9
Provincial Total	**37,995**	**37,879**	**37,676**	**167**	**122**	**40**	**29**	**100**	**56**	**32**	**29**	**7**	**4.7**	**5.1**	**3.2**

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Calculations:
1. Perinatal Mortality Rate(>or=500) = (Stillbirths (>or=500) + Early Neonatal Deaths(>or=500)) / Total Births (<or=500)
2. Perinatal Mortality Rate(>or=1000) = (Stillbirths (>or=1000) + Early Neonatal Deaths(>or=1000)) / Total Births (<or=1000)
3. Perinatal Mortality Rate(>or=500) Corrected = (Stillbirths (>or=500) corrected + Early Neonatal Deaths(>or=500) Corrected) / Total Births (>or=500)
4. Perinatal Mortality Rate(>or=1000) Corrected = (Stillbirths (>or=1000) Corrected + Early Neonatal Deaths(>or=1000) Corrected) / Total Births (>or=1000)

Notes:
1. Corrected rates exclude deaths due to major anomalies
2. RHA boundaries are current as of 1996.

Table A53 Neonatal and Corrected (for Major Anomalies) Mortality Rates by Facility RHAs and Hospitals, Alberta, 1996

Facility RHA	Total Live Births	Livebirths		Early Neonatal Deaths				Late-Neonatal Deaths				Neonatal Mortality Rate		Corrected Neonatal Mortality Rate	
						Major Anomalies				Major Anomalies					
		>or=500g	>or=1000g	>or=500g	>or=1000g	>or=500g	>or=1000g	>or=500g	>or=1000g	>or=500g	>or=1000g	>or=500g	>or=1000g	>or=500g	>or=1000g
1	2,087	2,083	2,075	5	1	1	1	0	0	0	0	2.4	0.5	1.9	0
2	1,171	1,171	1,168	2	0	0	0	1	0	1	0	2.6	0	1.7	0
3	511	511	511	2	1	0	0	1	1	0	0	5.9	3.9	5.9	3.9
4	11,883	11,871	11,800	30	14	8	7	5	2	3	2	2.9	1.4	2	0.6
5	439	439	439	0	0	0	0	0	0	0	0	0	0	0	0
6	2,392	2,389	2,387	3	2	2	1	2	2	1	1	2.1	1.7	0.8	0.8
7	842	841	841	1	1	0	0	0	0	0	0	1.2	1.2	1.2	1.2
8	394	394	394	0	0	0	1	0	0	0	0	0	0	0	-2.5
9	615	615	615	1	1	1	0	0	0	0	0	1.6	1.6	0	1.6
10	12,361	12,345	12,274	41	23	18	17	9	5	3	2	4.1	2.3	2.3	0.7
11	535	535	535	0	0	0	0	0	0	0	0	0	0	0	0
12	1,119	1,119	1,119	0	0	0	0	0	0	0	0	0	0	0	0
13	1,343	1,341	1,341	4	4	1	1	2	2	1	1	4.5	4.5	3	3
14	359	359	359	2	2	1	1	0	0	0	0	5.6	5.6	2.8	2.8
15	367	367	367	2	2	0	0	1	1	1	1	8.2	8.2	5.5	5.5
16	652	652	651	0	0	0	0	1	1	0	0	1.5	1.5	1.5	1.5
17	453	453	452	2	1	0	0	2	2	0	0	8.8	6.6	8.8	6.6
Total	37,523	37,485	37,328	95	52	32	29	24	16	10	7	3.2	1.8	2.1	0.9
Out-of-Hospital															
Planned	194	194	194	2	2	0	0	0	0	0	0	10.3	10.3	10.3	10.3
Unplanned	35	34	33	3	2	0	0	1	0	0	0	117.6	60.6	117.6	60.6
Total	229	228	227	5	4	0	0	1	0	0	0	26.3	17.6	26.3	17.6
Provincial Total	**37,752**	**37,713**	**37,555**	**100**	**56**	**32**	**29**	**25**	**16**	**10**	**7**	**3.3**	**1.9**	**2.2**	**1**

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Calculations: Neonatal Mortality Rate(>or=500) = (Early Neonatal Deaths(>or=500) + Late Neonatal Deaths (>or=500)) / Live Births (>or=500)

Neonatal Mortality Rate(>or=1000) = (Early Neonatal Deaths(>or=1000) + Late Neonatal Deaths (>or=1000)) / Live Births (>or=1000)

Notes:

1. Corrected rates exclude deaths due to major anomalies
2. RHA boundaries are current as of 1996.
3. Vital Statistics Alberta reports 37,920 livebirths (born in 37,474 livebirths (Alberta residents) - 1996

Table A54 Perinatal Mortality Rates (PMR) and Neonatal Mortality Rates (NMR) by Length of Gestation, Alberta, 1996

Gestational Age (Weeks)	Live Births	% of Total Deaths	# of Stillbirths	# of END	# of LND	PMR	NMR
<20	4	1	1	3	0	800	750
20-21	20	14.8	39	19	1	983.1	1000
22-23	28	16	38	25	1	954.5	928.6
24	30	6.3	10	14	1	600	500
25	39	4	7	6	3	282.6	230.8
26	30	2.3	0	7	2	233.3	300
27	40	3.3	6	5	2	239.1	175
28	43	1.3	4	1	0	106.4	23.3
29	72	3.8	12	3	0	178.6	41.7
30	66	3.3	10	2	1	157.9	45.5
31	105	3.5	11	3	0	120.7	28.6
32	140	2.8	7	4	0	74.8	28.6
33	197	1.5	5	1	0	29.7	5.1
34	327	3.3	9	3	1	35.7	12.2
35	531	2.5	7	2	1	16.7	5.7
36	1,182	3.3	11	2	0	10.9	1.7
37	2,312	4.3	8	6	3	6	3.9
38	5,585	6.3	17	6	2	4.1	1.4
39	9,132	6.3	15	7	3	2.4	1.1
40	12,007	5.8	12	9	2	1.7	0.9
41	5,290	3.8	8	5	2	2.5	1.3
42	730	1	4	0	0	5.5	0
>42	10	0	0	0	0	0	0
TOTAL	**37,920**	**100**	**241**	**133**	**25**	**9.8**	**4.2**

Source: Vital Statistics Annual Review 1996, Alberta Vital Statistics
Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Notes:
1. Total # of Deaths =399
2. Total Births = Livebirths + Stillbirth
3. PMR & NMR are not corrected.
4. END: Early-Neonatal Death
5. LND: Late-Neonatal Death

Table A55 Perinatal and Neonatal Mortality Rates, Ceasarean Section rates and Low Birth Weight Rates by Facility RHA, Alberta, 1996

RHA	Total Births[1]	Stillbirth Rate[2]	Perinatal Mortality Rate[3]	Neonatal Mortality Rate[4]	Total C/SRate[5]	Primary C/SRate[6]	ELBW % <1000g[7]	VLBW % <1500g[8]	LBW % (<2500g)[9]
1	2,092	4.3	6.7	2.4	14.5	8.8	0.6	1	5.3
2	1,175	3.4	5.1	2.6	9.4	6.5	0.3	0.4	4.4
3	514	5.9	9.7	5.9	17.2	11.6	0	0	1
4	11,929	4.9	7.4	2.9	17.6	12.2	0.7	1.5	7.3
5	439	0	0	0	13.8	9.2	0	0	0
6	2,396	2.9	4.2	2.1	17.3	10.3	0.2	0.4	5.6
7	843	2.4	3.6	1.2	17.2	9.3	0.1	0.1	2
8	396	5.1	5.1	0	8.1	5.8	0	0.3	1.8
9	616	1.6	3.2	1.6	10.2	6.5	0	0	4.1
10	12,408	5.1	8.4	4.1	17.1	11.6	0.6	1.5	7.9
11	536	1.9	1.9	0	10.3	5.8	0	0	2.1
12	1,121	1.8	1.8	0	14.6	8.1	0	0.2	2.1
13	1,344	2.2	5.2	4.5	13.6	8	0.07	0.15	3.4
14	361	5.5	11.1	5.6	21.1	13.6	0	0.3	3.6
15	367	0	5.5	8.2	7.1	5.4	0	0	1.4
16	655	4.6	4.6	1.5	19.9	12.4	0.2	0.3	3.4
17	457	8.8	13.1	8.8	8.6	5	0.2	0.2	1.5
TOTAL	**37,649**	**4.4**	**7**	**3.3**	**16.2**	**10.7**	**0.5**	**1.1**	**6.2**

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Note:
1. Out-of-hospital births excluded
2. (Stillbirths 500 / Total Births 500) x 1000
3. ((Stillbirths 500 + Early Neonatal Deaths 500) / Total Births 500) x 1000
4. ((Early + Late Neonatal Deaths 500) / Total Births) x 1000
5. (Total Cesarean Sections / Mothers Delivered) x 100
6. (Primary Cesarean Sections / Mothers Delivered) x 100
7. (Live Births < 1000g / All Live Births) x 100
8. (Live Births < 1500g / All Live Births) x 100
9. (Live Births < 2500g / All Live Births) x 100
10. RHA boundaries are current as of 1996.

C/S = Ceasarean section VLBW = very low birth weight
LBW = low birth weight ELBW = extremely low birth weight

Table A56 Perinatal and Neonatal Mortality Rates, Ceasarean Section rates and Low Birth Weight Rates by Level of Hospital, Alberta, 1996 (weight >= 500 grams)

Hospitals	Total Births[1]	Stillbirth Rate[2]	Perinatal Mortality Rate[3]	Neonatal Mortality Rate[4]	Total C/SRate[5]	Primary C/Srate[6]	ELBW % <1000g[7]	VLBW % <1500g[8]	LBW % (<2500g)[9]
Level III									
RAH/UAH	5,065	8.5	15.6	8.6	20.7	14.3	1.7	3.4	13.1
Foothills	4,375	7.3	12.1	5.8	15.9	11.6	1.7	3.6	10
LEVEL III TOTAL	9,440	7.9	13.9	7.4	18.5	13.1	1.7	3.5	11.7
Level II									
Misericordia	2,596	3.1	3.9	0.8	12.6	8.4	0	0.2	4.3
Grey Nuns	3,567	2.8	3.6	1.4	16.7	11.2	0.08	0.2	4.6
Lougheed	3,761	1.9	3.5	1.6	17.3	12.1	0.2	0.4	7.3
Rockyview	3,793	5	5.8	1.1	19.8	13.1	0.1	0.2	4.1
Red Deer	1,680	3.6	4.8	1.8	19.5	11.8	0.3	0.6	7.6
Grande Prairie	999	2	6	5	17	9.6	0.1	0.2	3.9
Lethbridge Reg.	1,582	5.1	8.2	3.2	15.3	9.5	0.8	1.2	6.5
Medicine Hat	843	3.6	5.9	2.4	9.5	6.6	0.2	0.5	5.4
LEVEL II TOTAL	18,821	3.4	4.9	1.7	16.7	11	0.2	0.4	6.9
Level I									
North	7,356	2.8	4.1	2	13.2	7.9	0.04	0.1	2.4
South	2,032	2.5	3.4	2	12.7	8.2	0.05	0.05	1.2
LEVEL I TOTAL	9,388	2.7	3.8	2	13.1	8	0.04	0.09	2.2
TOTAL	**37,649**	**4.4**	**7**	**3.3**	**16.2**	**10.7**	**0.5**	**1.1**	**6.2**

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Notes:
1. Out-of-hospital births excluded
2. (Stillbirths 500 / Total Births 500) x 1000
3. ((Stillbirths 500 + Early Neonatal Deaths 500) / Total Births 500) x 1000
4. ((Early + Late Neonatal Deaths 500) / Total Births) x 1000
5. (Total Cesarean Sections / Mothers Delivered) x 100
6. (Primary Cesarean Sections / Mothers Delivered) x 100
7. (Live Births < 1000g / All Live Births) x 100
8. (Live Births < 1500g / All Live Births) x 100
9. (Live Births < 2500g / All Live Births) x 100

C/S = Ceasarean section
ELBW = extremely low birth weight
LBW = low birth weight
RAH = Royal Alexandra Hospital
VLBW = very low birth weight
UAH = University of Alberta Hospital

Table A57 Factors Associated With Early Neonatal Deaths By Birth Weight (grams), Alberta, 1996

*Factors	<500	500-999	1000-1499	1500-1999	>or=2000	Total
Respiratory Complications	1	24	6	2	8	**41**
Extreme Immaturity	27	23	2	0	1	**53**
Intraventricular/Intracranial Hemorrhage	0	15	1	2	3	**21**
Periventricular Leukomalacia	0	1	0	0	0	**1**
Infection	2	3	0	0	2	**7**
Major Anomaly	6	2	10	3	16	**37**
Hypoxic Ischemic Encephalopathy	0	1	0	1	12	**14**
Rh Isoimmunization	0	0	0	0	0	**0**
Endocrine/Metabolic Disorder/Renal	0	15	2	3	13	**33**
NEC	0	1	0	0	1	**2**
Non-Immune Hydrops	0	1	1	0	0	**2**
Birth Injury	0	0	0	0	1	**1**
Multisystem Failure	0	0	0	1	5	**6**
DIC	0	0	0	0	0	**0**
Iatrogenic	0	0	0	1	5	**6**
ECMO	0	0	0	0	2	**2**

Source: Based on mortality case reviews of hospital records by the Reproductive Care Committee.
Notes: 1. Total Early Neonatal Deaths = 133
2. * Not mutually exclusive

Table A57b Factors Associated With Late Neonatal Deaths By Birth Weight - 1996

*Factors	<500 g	500-999 g	1000-1499 g	1500-1999 g	>or=2000 g	Total
Respiratory Complications	0	7	2	0	3	**12**
Extreme Immaturity	0	5	1	0	0	**6**
Intraventricular/Intracranial Hemorrhage	0	6	1	0	0	**7**
Infection	0	2	0	0	1	**3**
Major Anomaly	0	3	0	2	6	**11**
Hypoxic Ischemic Encephalopathy	0	0	0	0	1	**1**
SIDS/Unexplained Death	0	0	0	0	3	**3**
Accidental - Out-of-Hospital	0	0	0	0	1	**1**
Endocrine Metabolic/Renal	0	8	1	0	5	**14**
Non-Immune Hydrops	0	0	0	0	0	**0**
NEC	0	5	1	0	0	**6**
Periventricular Leukomalacia	0	0	0	0	0	**0**
Multisystem Failure	0	2	0	0	2	**4**
Iatrogenic	0	1	0	0	0	**1**
Birth Injury	0	0	0	0	0	**0**
DIC	0	1	0	0	1	**2**
ECMO	0	0	0	0	0	**0**

Source: Based on mortality case reviews of hospital records by the Reproductive Care Committee.
Note: 1. Total Late Neonatal Deaths = 25
2. * Not mutually exclusive

Table A58 Maternal Factors Involved In Perinatal & Neonatal Mortality, Alberta, 1996

MATERNAL FACTORS	Type of Death				Pre-term		Term	
	Antepartum	Intrapartum	END	LND	<2500 grams	>2500 grams	<2500 grams	>2500 grams
PIH/HELLP	3	5	3	1	10	2	0	0
Hypertension	6	1	1	1	5	0	0	4
Bleeding <20 weeks	14	13	29	1	50	1	1	5
Bleeding >or=20 weeks	19	19	42	1	71	2	6	2
Abruptio	9	2	15	0	21	0	0	5
Ruptured Uterus	0	0	0	0	0	0	0	0
Preterm - Labour	17	39	66	2	112	1	0	1
PROM - Term	0	0	0	0	0	0	0	0
PROM - Pre-term	11	29	41	3	83	0	1	0
RH Isoimmunization	0	0	0	0	0	0	0	0
Coagulopathy/DIC	1	1	0	1	1	1	0	1
Diabetes/Gestational Diabetes	2	2	4	0	4	1	0	3
Anemia	9	1	3	1	11	1	1	1
Infection - Maternal	16	7	8	2	23	2	1	7
Infection - Intrauterine	33	38	30	5	91	2	3	10
Hemolytic Strep. B	2	0	2	0	1	0	0	3
Herpes	0	0	0	0	0	0	0	0
Poly/oligohydramnios	21	10	18	1	37	1	6	6
Incompetent Cervix	5	2	4	1	12	0	0	0
Trauma	1	0	1	0	1	0	0	1
Substance Abuse - Alcohol	3	2	3	2	6	0	1	3
Substance Abuse - Drugs	6	2	4	1	9	0	1	3
Gynecological/Uterine Anomaly	1	2	3	0	6	0	0	0
Seizure Disorder	2	0	0	1	0	0	1	2
Maternal Nutrition Disorder	0	0	0	0	0	0	0	0
Decreased Weight/Growth	3	1	0	0	2	0	2	0
Other Medical Disorder	16	7	13	2	26	3	2	7
Psychological Disorder	4	2	2	0	8	0	0	0
Smoking	48	25	34	11	88	4	2	24
Decreased Fetal Movements	47	3	3	0	17	8	4	24
No Prenatal Care	2	0	4	1	5	0	0	2
Repeat C/S	17	7	18	6	31	1	2	14
Repeat C/S After Trial of Labour	1	1	2	0	0	0	0	4
VBAC	14	5	8	2	21	0	2	6
Antepartum Risk Score - 0-2	49	8	20	11	41	2	4	41
Antepartum Risk Score - 3-6	79	40	51	9	127	9	9	34
Antepartum Risk Score - >or=7	32	31	57	5	102	4	6	13
Total Factors (Not Mutually Exclusive)	**493**	**305**	**489**	**71**	**1,022**	**45**	**55**	**226**

Source: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.
Note: 1. END: Early-neonatal Deaths
2. LND: Late-neonatal Deaths

Table A59 Neonatal, Post-neonatal and Infant Mortlity Rates, Alberta, 1986 -1996

Year	Neonatal Deaths	Post-neonatal Deaths	Infant Deaths	Neonatal Mortality Rate per 1,000 Livebirths	Post-neonatal Mortality Rate per 1,000 Livebirths	Infant Mortality Rate per 1,000 Livebirths
1986	216	170	386	5.0	3.9	8.9
1987	179	133	312	4.3	3.2	7.5
1988	183	157	340	4.4	3.8	8.2
1989	181	138	319	4.2	3.2	7.4
1990	215	123	338	5.0	2.9	7.9
1991	146	137	283	3.4	3.2	6.7
1992	194	105	299	4.7	2.5	7.2
1993	158	104	262	4.0	2.6	6.6
1994	185	105	290	4.7	2.7	7.3
1995	187	80	267	4.9	2.1	6.9
1996	151	80	231	4.0	2.1	6.2

Source: Vital Statistics, Birth File, Alberta Registries, April 1998 release.
Vital Statistics, Death File, Alberta Registries, April 1998 release.

Calculations: rate=(# of deaths) / (# of live births)*1000

Note: Infant mortality refers to deaths to children under one year of age per 1,000 live births
Neonatal death (NND) refers to death of a live born infant occurring less than 28 full days after birth.
Post-neonatal deaths referes to deaths to children occurring between 28 full days and less than a year of age.
Calculations are based on Alberta Residents only

Table A60 Neonatal, Post-neonatal and Infant Mortality Rates by Residence RHA, 1994 1995 1996 Combined

RHA	Neonatal Deaths	Pos-neotnatal Deaths	Infant Deaths	Live Births	Neonatal Mortality Rate per 1,000 Livebirths	Post-neonatal Mortality Rate per 1,000 Livebirths	Infant Mortality Rate per 1,000 Livebirths
1	38	14	52	6,765	5.6	2.1	7.7
2	10	13	23	3,563	2.8	3.6	6.5
3	10	6	16	2,573	3.9	2.3	6.2
4	139	59	198	33,935	4.1	1.7	5.8
5	11	8	19	1,955	5.6	4.1	9.7
6	39	18	57	7,817	5.0	2.3	7.3
7	24	5	29	3,333	7.2	1.5	8.7
8	10	10	20	3,506	2.9	2.9	5.7
9	15	8	23	1,906	7.9	4.2	12.1
10	145	72	217	31,739	4.6	2.3	6.8
11	11	11	22	3,708	3.0	3.0	5.9
12	20	13	33	4,698	4.3	2.8	7.0
13	22	9	31	3,959	5.6	2.3	7.8
14	3	5	8	990	3.0	5.1	8.1
15	10	4	14	1,666	6.0	2.4	8.4
16	4	5	9	1,750	2.3	2.9	5.1
17	11	6	17	1,600	6.9	3.8	10.6
Province	**522**	**266**	**788**	**115,463**	**4.5**	**2.3**	**6.8**

Sources: Vital Statistics, Birth File, Alberta Municipal Affairs, April 1998 release.
Vital Statistics, Death File, Alberta Municipal Affairs, April 1998 release.

Calculations: rate=(# of deaths)/(# of live births)*1000

Notes:
1. Infant mortality refers to deaths to children under one year of age per 1,000 live births
2. Neonatal death refers to death of a live born infant occurring less than 28 full days after birth.
3. Post-neonatal deaths refers to deaths to children occurring between 28 full days and less than a year of age.
4. Calculations are based on Alberta Residents only.

Table A61 Weight Specific Mortality, 1996

Birth Weight (grams)	Perinatal					Neonatal				
	Total Birth	Perinatal Deaths	Perinatal Deaths Excluding Maj. Congenital Anomalies	Perinatal Mortality Rate(PNR)	Corrected Perinatal Mortality Rate	Live Births*	Neonatal Deaths	Neonatal Deaths Excluding Maj. Congenital Anomalies	Neonatal Mortality Rate(NNR)	Corrected Neonatal Mortality Rate
<500	106	104	84	981.1	792.5	35	33	27	942.9	771.4
500 - 749	98	67	60	683.7	612.2	67	40	38	597	3
750 - 999	96	22	15	229.2	156.3	82	13	9	158.5	109.8
1000 - 1249	100	21	9	210	90	88	11	4	125	45.5
1250 - 1499	123	12	8	97.6	65	116	5	2	43.1	17.2
1500 - 1749	167	9	7	53.9	41.9	160	2	1	12.5	6.3
1750 - 1999	266	17	10	63.9	37.6	253	5	2	19.8	7.9
2000 - 2499	1,500	26	13	17.3	8.7	1,480	7	1	4.7	0.7
2500 - 2999	5,813	31	26	5.3	4.5	5,789	10	6	1.7	1
3000 - 3999	25,071	52	38	2.1	1.5	25,040	30	18	1.2	0.7
4000 - 4499	3,671	5	5	1.4	1.4	3,667	1	1	0.3	0.3
>or=4500	700	4	3	5.7	4.3	697	1	1	1.4	1.4
TOTAL	**37,711**	**370**	**278**	**9.8**	**7.4**	**37,474**	**158**	**110**	**4.2**	**2.9**

Sources: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.

Calculations: PNR = ((Stillbirths + Early-neonatal deaths) / Total Births) x 1000

Corrected PNR = ((Stillbirths + Early-neonatal deaths - Congenital Anomalies) / (Total Births - Congenital Anomalies)) x 1000

NNR = ((Early-neonatal deaths + Late-neonatal deaths) / Live Births) x 1000

Corrected NNR = ((Early-neonatal deaths + Late-neonatal deaths - Congenital Anomalies) / (Live Births - Congenital Anomalies)) x 1000

Notes:
1. * Live birth figures are obtained from Vital Statistics annual review 1996
2. There are four stillbirths - weight not stated

Table A62 Autopsy Rates
1996 Perinatal and Late-Neonatal Deaths >500 grams

Facility RHA	# of Deaths >500grams HOD	# of Autopsies >500grams HOD	Autopsy Rate HOD
1	13	6	46.2
2	6	1	16.7
3	3	2	66.7
4	95	51	53.7
5	0	0	0
6	11	3	27.3
7		1	100
8	1	0	0
9	2	1	50
10	125	44	35.2
11	1	1	100
12	2	1	50
13	7	3	42.9
14	2	1	50
15	0	0	0
16	3	2	66.7
17	3	1	33.3
Total	275	118	42.9
Out-Of-Hospital			
Planned	0	0	0
Unplanned	5	3	60
Total	5	3	60
Provincial Total	**280**	**121**	**43.2**

Sources: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.
Medical Examiner's Offices

Calculations: Autopsy Rate = (# of Autopsies / # of Deaths) x 100

Notes:
1. In this report, autopsy rates are calculated by hospital of death (HOD).
2. RHA boundaries are current as of 1996.

Table A63 Maternal Mortality, Alberta, 1961 - 1996

Year	Material Deaths				Rates	
	Total	Direct	Indirect	Unrelated	Overall	Direct
61-65	**18**	8	4	6	4.9	2.2
66-70	**11**	4	2	5	3.6	1.3
71-75	**10**	3	1	6	3.3	1.0
76-80	**6**	1	2	3	1.7	0.3
81-85	**7**	2	2	3	1.6	0.5
86-90	**8**	2	1	5	1.9	0.5
91-95	**5**	2	2	1	1.2	0.5
1996	**6**	2	2	2	1.6	0.5

Sources: Statistics reported to the Reproductive Care Committee by Medical Records Department of the hospitals.
Alberta Vital Statistics.

Note: 1. Rates per 10,000 livebirths.
2. All Figures (except 1996) are an average of the five year period.